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D4.2 Analysis and recommendations on Design for All related higher education and research policies in EU member countries

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The report includes recommendations for further development of DfA

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related strategies and policies in Europe, based on the analysis of the state of the art in Design for All education and research strategies and policies in EU member countries, complemented with considerations on respective strategies in the USA.

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1 Executive Summary

The purpose of this document has been to produce recommendations on further development of Design for All related education and research strategies and policies in Europe. The production of recommendations is based on the assessment of IDCnet's findings and considerations on Design for All education and research strategies and policies in EU member countries. The assessment is complemented with considerations on Universal Design education and research strategies and policies in the USA. A primary knowledge base for the recommendations is also the questionnaire, sent out to Design for All experts in higher education institutions, professional organisations and their networks, relevant European Design for All networks, national level DfA experts primarily in relevant ministries, and experts in the EU level.

The work of IDCnet is aimed to support the eEurope 2002 action programme's objective to produce curricula recommendations on Design for All for designers and engineers in the field of ICT.¹ IDCnet also supports the work of European Design for All e-Accessibility Network (EDeAN). National Design for All e-Accessibility networks were established in 2002 in all EU member countries, as a result of an objective defined in the eEurope 2002 action programme.

This document supports the above mentioned specific eEurope 2002 objective by identifying key issues to be discussed and proposes recommendations for further development of Design for All education and research strategies and policies in Europe. Recommendations proposed in this document relate primarily to two levels: to influence Design for All related strategies in higher education institutions to support development of Design for All education in them and to support strategy and policy work in the ministerial level in EU member countries. To this end, recommendations touch the issue of networking and interaction between various actors in the European scene, Design for All related networks and networks of relevant professionals included.

¹ eEurope 2002 available at: http://europa.eu.int/information_society/eeurope/2002/action_plan/pdf/actionplan_en.pdf; and eEurope 2005 available at http://europa.eu.int/information_society/eeurope/2005/index_en.htm

2 Introduction

The major objective of the report in hand is to produce recommendations related to further development of Design for All education and research strategies and policies in Europe. The recommendations produced are based primarily on the results from a questionnaire sent out to Design for All experts in levels specified below; results from the IDCnet workshop organised in Sankt Augustin, Germany, in January 2004; and results from the desk survey conducted to assess the state-of-the-art of DfA related education and research policies in European Union member countries, supported by a comparison to the situation in the United States.

Those readers who are already familiar with the state-of-the-art of DfA related education and research strategies and policies, documented in the initial IDCnet report D4.1, are advised to go directly to chapters 4 and 5, with specific information on the questionnaire and the recommendations itself.

Design for All education and research strategies and policies are in this document discussed at the following levels:

- Higher education institutions, primarily universities
- European networks of higher education institutions
- National professional organisations related to implementation of Design for All policies and practices
- European networks or professional umbrella organisations related to implementation of Design for All policies and practices
- Governmental bodies in EU member countries, primarily ministries of education and those related to information society issues
- National bodies funding Design for All research
- European bodies funding Design for All research
- IT industry

Information has been gathered and assessed of Design for All related education and research policies and strategies in EU member countries at above mentioned levels. Complementary information on good practice in the USA has also been gathered and analysed.

The tasks, as defined in the IDCnet Technical Annex have been:

- Information gathering, focusing on identification of Design for All and Design for All related higher education and research policies in EU member countries, with complementary information from the USA (Deliverable D4.1, the basis for the final deliverable D4.2, now in hand).
- Assessment of and recommendations for development of DfA related higher education and research policies and strategies.

Recommendations will be developed in close collaboration with the European Design for All e-Accessibility Network (EDeAN),² and existing higher education networks in design and engineering field, like CUMULUS,³ a well-established design university network in Europe, and EIDD, the European Institute for Design and Disability,⁴ a design-based network supporting inclusion of all citizens in the Information Society through design (in this deliverable).

The primary responsibility on issues related to higher education in the European Commission falls under the Directorate General on Education and Culture,⁵ while the primary responsibility on issues related to the development of the European Information Society has been allocated to DG on Information Society, DG INFSO.⁶

The scope of both reports D4.1 and D4.2 is to shed light on challenges and possibilities related to Design for All education and research strategies and policies in Europe in the context of Information Society, and furthermore, Knowledge Society. The challenge of Information Society for All has been recognised in a number of occasions by the European Commission and by the EU member countries, and articulated in e.g., in Lisbon Strategy from 2000. "The Lisbon Strategy, Making change happen" also reacted to the need to develop an integrated strategy for Community education and research policies in 2002.⁷

As a policy statement, Information Society for All can be understood as a European value statement in support of an inclusive society based on the shared goal to provide equal participation to all its citizens. This report is based on this basic assumption, and has been written to provide a basis for further considerations on strategy and policy developments to improve the implementation of Design for All approach in higher education curricula, especially in academic fields integral to development of the European Information Society.

In the context of the European Information Society development, the following actions can be considered of primary importance, in the perspective of the IDCnet project.

The European Design for All e-Accessibility Network EDeAN and the national Design for All e-Accessibility networks in respective EU member countries and Norway, were established during the year 2002. The need for the creation of networks of excellence in the area of design was explicitly noted in terms of the eEurope 2002 initiative:

² <http://www.eaccessibility.org/>

³ The European Association of Universities and Colleges of Art, Design and Media, <http://tmo.uiah.fi/cumulus>

⁴ <http://www.design-for-all.org/>

⁵ DG Education and Culture: http://europa.eu.int/comm/dgs/education_culture/index_en.htm

⁶ DG Information Society: http://europa.eu.int/comm/dgs/information_society/directory/index_en.htm

⁷ Spring European Council in Barcelona 2002, The Lisbon Strategy, Making Change happen. http://europa.eu.int/comm/barcelona_council/14_en.pdf

“By the end of 2002 [...]. Ensure the establishment and networking of national centres of excellence in design-for-all and create a European curriculum for designers and engineers.”

Furthermore, the conclusion of the informal meeting of ministers for telecommunications and the information society (21–23 February, 2002, Vitoria, Spain) noted that:

“Accessibility to all kind of electronic services (e-government, e-learning, e-business, e-health, etc.) provided by any means, including those based on broadband internet access, 3G mobile communications or digital TV, should be ensured for people with disabilities and for the elderly”.

Over the last few years, it seems that the traditional approach to disability policy has undergone a revolution: it is increasingly being recognized on a global scale that human difference should be embraced as a phenomenon, which is both natural and beneficial to human society. The issue has been notably raised in the context of the major demographic change — ageing of population in all countries, developed and developing alike. The rapidly growing numbers of ageing population will mean that older members of society can no longer be considered as a minority group with special needs, claiming special solutions, but all in all, a part of the mainstream, with very diverse sub-groups with individual needs and individual lifestyles. Ageing of population will no doubt leave a clear mark on lifelong learning developments as well.

This is even more underlined in discussions and developments related to the information society. European Commission, Information Society Technologies Programme Strategy (from 2000-2002) states, that the surrounding is the interface to a universe of integrated services, and in this context the so called average user of IST related products is impossible to identify. IST related products and services are used by users with greatly diverse needs, and users fall not only in categories related to age or ability, but to variety of cultural or educational backgrounds. This will have to be clearly reflected in education of designers, and not only designers of information technology applications. More and more areas of production, both material and immaterial, at least include an element of information technology applied. Hence, Design for All education and research policies will need to reflect this major change.

One of the primary rationales behind the Design for All approach is that designing for the so called average user leads to products that do not cater for the needs of the broadest possible population, thus excluding categories of users, often even unconsciously. Going even further, the main report of CEN/ISSS project on Design for All and Assistive Technology (2001), after the investigation of a wide range of standards in the area of ICT and Internet services, states that

“... few people represent the average person, with the consequence that if a product is designed for the average person, it might be uncomfortable or impossible for most people to use it.”

Unless all people can access and use information society services, new barriers will be introduced resulting to human isolation, a situation that has also been termed the digital divide.

In terms of the EU Framework Programmes on Research and Development, RTD initiatives have taken Design for All issues on board since the 4th framework programme (FP), especially in the realm of IST programmes (Information Society Technologies Programmes). In the 5th FP, some RTD initiatives were started that addressed Design for All issues, especially those under action line 1.2 (Persons with special needs, including the disabled and the elderly). However, despite these important areas of work, there is still a need for incorporation of these results and the whole philosophy of Design for All to the learning process in a manner that may be taken up by higher education institutions and also, by industry. In this sense, both the eEurope 2005 action programme, and the new 6th Framework Programme on R&D will provide an interesting sounding board.⁸

At the national level, research policies are developed by a large number of actors, and countries vary from one another in this respect. Generally speaking, ministries of education play a crucial role in all EU member countries in development of research policies, especially concerning basic research. Applied research often falls under the umbrella of sector ministries. In the context of Information Society, the relevant ministry is often either a ministry of communication or a ministry of trade.

State of the art in higher education in EU member countries in relation to implementation of Design for All in curricula varies from one country to another, already because of the different systems to develop higher education in EU countries. In some countries, universities have a very independent role in terms of content of curricula and the governmental bodies in these cases have control primarily in the form of funding based on defined quality criteria. In other countries, relevant professional organisations together with the governmental bodies form a guidance and control system, with plenty of influence on curricula development, often through both an accreditation system and financial control based on regular external performance and quality evaluation. Different systems clearly affect the way the IDCnet recommendations on Design for All education and research strategies and policies in EU countries, presented in the document in hand, can be implemented. Solid identification of key actors country by country will become one of the crucial success factors.

In the academia, one of the major developments in the European higher education systems during the last years has no doubt been the Bologna

⁸ EU RTD Framework Programmes 4,5,6: <http://www.cordis.lu/>

Declaration from 1999.⁹ The Bologna agreement states, that all EU member countries will adjust their basic higher education degrees in two levels: Bachelor's degree (3 academic years) and respectively Master's degree (2 additional academic years, or comparable two cycle degrees A view is widely shared, that programmes leading to a degree may, and should have different orientations and various profiles in order to accommodate a diversity of individual, academic and labour market needs).

At the same time, exchange of university students and staff from their own home university to another European university during the basic degrees has been greatly encouraged and supported (i.e. Socrates, Erasmus and Leonardo programmes, funded by the EC and run by the DG on Education and Culture). To ensure that studies undertaken during these exchange periods will count as a relevant part of the degree when the student returns to the home university, the European Credit Transfer System ECTS has been developed, and will come in force in all EU member country universities in 2005. Both the Bologna agreement on degrees and on ECTS will provide a crucial framework for integration of Design for All courses or modules in the curricula in European higher education institutions.

In 2002, the Education Council and the Commission endorsed a 10-year work programme to be implemented through the open method of coordination. Approved by the European Council, these agreements constitute the new and coherent Community strategic framework of co-operation in the fields of education and training.¹⁰

In the IDCnet project relevant actors were identified for further inspection in relation to Design for All education and research strategies and policies. Relevant levels include European actors, national bodies and higher education institutions, but also professional organisations on both national and European level. A relevant group of actors is also industry, who at least in the Information Society Technologies sector can be estimated to have an influence and at least a keen interest on education and research policies. To support the development of recommendations for further development of DfA education and research related strategies and policies, a questionnaire was sent out to these actors. The results from the questionnaire are analysed in this report, and recommendations for further development have been produced primarily based on these results.

It was stated in an earlier IDCnet document that Design for All is at the same time a philosophy and a movement and it should not be seen as a

⁹ Bologna Declaration: http://www.bologna-berlin2003.de/pdf/bologna_declaration.pdf

¹⁰ http://www.europa.eu.int/comm/education/policies/2010/et_2010_en.html with a link to the 10-year work programme. See also http://www.europa.eu.int/comm/education/policies/2010/objectives_en.html with a link to working group reports relevant working group on Information Technologies. Report from November 2003.

discipline. Design for All is neither a new genre of design, nor a separate topic. The results from the questionnaire support this statement.

Design for All is a socially conscious, general approach to designing in which designers ensure that their products, environment and services address the needs of the diversity of users of products, irrespective of users' age, ability or cultural background.¹¹ Knowledge sets and skills described and defined in IDCnet (Deliverable D3.2) are to be considered as topics to be picked up and incorporated into existing curricula. The same applies with Design for All related education and research strategies and policies — they can hardly exist on their own, but integrated in education and research policies related to design fields in general. Also, it is worth bearing in mind that in the business context, Design for All as a strategy issue needs to have a context. A natural context for Design for All related strategies is sustainable development. At present sustainable development is understood to include three equal approaches: economically, ecologically and socially sustainable development, all of which should be understood to affect each other. In businesses socially sustainable development is mostly discussed under the umbrella of corporate social responsibility (CSR). One of the key issues discussed round CSR is reporting on CSR and development of indicators that would measure the progress in CSR in a reliable manner. An interesting topic for future considerations would be to see, if Design for All approach could have something to offer to the indicator development. Design for All has been on the European agenda since early 1990's, and during the years its position has become stronger. The disability movement has played an undeniably important role in this, but it can also be claimed that a paradigm shift in Design for All concept has been caused by the recognition of the impact the demographic change and the growing numbers of ageing people has had and will have to have on design related activities. Information Society actors have included the issue on the agenda. Furthermore it needs to be recognised, that also the changes within scientific disciplines are paving the way. Scientific disciplines are undergoing deep paradigm shifts, i.e. shift to cross- and multi-disciplinary approach is leading to re-design of curricula and research policies in areas that are fundamental to the Information Society. The impact of disability and other policy actions, but also the impact of changes in academic disciplines on universal design education and research has also been recognised in the USA (Welch and Jones, 2002).

In this report strategies will primarily be interpreted as the means with which actors/bodies can develop or implement policies.

¹¹ For Design for All definitions, check i.e. <http://www.design-for-all.info>, <http://www.design-for-all.org> or <http://e-accessibility.org>

3 Design for All education and research - strategies and policies

3.1 Higher education institutions

Organising design and engineering education varies from one country to another in Europe. In many countries by now, design universities offer Bachelor of Art, Master of Art and Ph.D. or relevant cycles of degrees, and they cover a full range of design studies from product to communication to new media design. The same is generally speaking true with engineering degrees. There are countries though, where especially design degrees may not cover masters or at least Ph.D. degrees.

In some cases design schools may have a Ph.D. route through a traditional university, based on mutual agreements. This is the case in Sweden, where some design schools have made agreements with the technical universities. Also in The Netherlands, engineering design degrees on industrial design are taught in Universities of Technology, while other design degree courses are taught in design schools. Dutch design schools only provide BA and MA degrees, while Universities of Technology also provide Ph.D. degrees.

Independently, whether design or engineering degrees are taught in Bachelor, Masters or Ph.D. level, it can be safely said that information technology related elements are included in most education. Therefore, in the following, higher education institutions on design and engineering are considered generally, not limited to specific IT degrees.

Also, higher education systems as such vary in EU member countries. Typically, university degrees and curricula require the accreditation of a specific accreditation body. Ministries of education and/or professional organisations often have a role in accreditation.

There are EU member countries though, where universities independently decide for curricula. In these cases, ministries of education control the quality of university education primarily through funding. Quality criteria is typically quantitative, in most cases related to the relationship of student intake numbers and numbers of degree graduates annually, and number of Ph.D. degrees. Qualitative criteria are rarer. Inclusion or implementation of Design for All approach is nowhere among quality criteria, yet.

Design for All education — when it exists — is not yet always based on long term, strategic plans in higher education institutions. Rather, it seems more often to be based on committed educators. These teachers cover a wide variety of academic fields, from architecture to product design to communication design and from assistive technology to gerontechnology to information technologies, including new media design

or gerontology. No extensive information on exactly where and how in EU countries Design for All is taught in higher education institutions exist, academic fields mentioned above are based on the long term expertise and experience of those involved in Design for All education in a number of EU countries, and e.g. findings of GENIE project (GENIE, Gerontechnology Network in Europe, Socrates funded project coordinated by the University of Delft, The Netherlands, finished September 2001).

The wide variety of fields where elements of Design for All approach have already been integrated in higher education curricula, would suggest that what has been proposed in the IDCnet report D3.2 identifying core knowledge sets for DfA curricula, is true. The report suggests that there is a paradigm shift in curricula development as more inter-disciplinary and cross-disciplinary education is needed to meet the changing requirements of professions.

As a consequence this would also mean that a strategic approach could support the integration of Design for All in curricula in the university level. Even if the majority of Design for All courses taught in European universities can still be estimated to be dependant on the commitment of individual teachers, long term, strategic developments are on the way. Good cases and practices already exist. This development can be seen to be in accordance with the discourse going on in the US, where universal design education strategies are proposed to be developed using injection and infusion techniques. A further description of this approach can be found in the chapter 3.10.

An example of a long term commitment on the inclusive design approach on a university level is the Royal College of Art in London, UK. Inclusive design has been taught in the Royal College of Art (RCA) since early 1990's, in its first years with a clear focus on design for ageing. Courses at the time developed for product and engineering designers mainly, have since developed into the Helen Hamlyn Research Centre, with a Fellowship Programme offering a substantial number of research students one-year fellowships in collaboration with industry.¹²

The Helen Hamlyn Research Centre has also played a key role in the production of policy papers on inclusive design education and research in collaboration with some other UK universities and the Design Council. *'Living longer. The new context for design'* was published in 2001 by the Design Council, edited by Roger Coleman, the director of Helen Hamlyn Research Centre. The publication finishes with recommendations 'to breathe life into the initiatives like the Council of Europe resolution and to ensure that the UK develops a competitive advantage through inclusive design'.¹³ The recommendations include several points to develop inclusive design education and research:

¹² Helen Hamlyn Research Centre, <http://www.hhrc.rca.ac.uk/>

¹³ Living longer. The new context for design. Published by the Design Council, UK, p. 46

- The Department for Education and Skills (DfES), Department of Trade and Industry (DTI) and Design Council work with the Qualifications and Curriculum Authority and other education influencers to develop a national education programme which integrates inclusive approaches to design, issues surrounding population ageing and capability ranges across the whole population, at all levels of design curricula.
- To support this, the RSA works with the DfES and appropriate industry and voluntary sector sponsors, to promote and extend their Student Design Awards '*New Design for Old*' competition at all levels of education. The RSA have undertaken more recent initiatives to promote inclusive design, including a major conference held at the RSA in November 2002 - 'Interface - User & Machine', a new Inclusive Worlds programme launched in Autumn 2003, and a new project, RSA Inclusive Design Toolkit, which will later this year provide a unique resource for designers, students and business people.
- The DfES, DTI and Design Council work with further and higher education institutions, Learning and Skills Councils and other representative bodies and trade associations to integrate inclusive design and inclusive environments into professional learning programmes.

The recommendations are, according to the publication, developed to provide 'the basis for a comprehensive range of actions by government, education organisations, businesses and designers to take advantage of the opportunity to improve both prosperity and well-being through inclusive design'.¹⁴

In the United Kingdom collaboration between some design universities/faculties and engineering universities/faculties have already led to strategy developments in research and research funding. For example, the i-design project influenced a number of key outputs, for example a new British Standard (BS7000-6) on inclusive design management, due for publication in 2005; a substantial body of publications, and the establishment of web-site resources.

In Spain some 20 universities (design, engineering, etc) are at present developing Design for All curricula modules. Many of the active partners in the Spanish project are also members of the Spanish EDeAN, European Design for All e-Accessibility Network and Coordinadora, the Spanish EIDD member network. A law was recently passed that obliges the government to develop a DfA curriculum in every educational programme, also in the areas of built environment and information society.

The practical experiences in Spanish universities about teaching DfA in ICT related courses so far have been the introduction of 'free option' modules

¹⁴ Ibid. Pp 46-53

in which the concepts and legislation are introduced together with some practical assignments about creating or evaluating accessible web design. This has been the case during 2003 in the Faculty of Psychology of the University of Valencia and in the Telecommunications School and Computer Science School of Polytechnic University of Madrid.

In Belgium faculties and schools of architecture initiated some two years ago a development project in Design for All curricula. The initiative for the project came from the schools of architecture, and more specifically, active members in the Belgian EIDD, the Belgian network in European Institute for Design and Disability.

Design for All and inclusion are fairly new subjects also in France, especially in the field of ICT or industrial design. There is no dedicated curriculum for the time being in higher education apart from few isolated research projects and initiatives. This, however, is probably going to change, as some action plans were decided during 2003, mainly in relation with the European Year of People with Disabilities, including a national call for research projects concerning disablement and Internet uses.¹⁵

In Sweden results of a three-year curricula development project with all universities of design as partners will be reported during autumn 2004, as the project comes to a close in May 2004. The initiative for the Swedish project came from some of the universities and from the EIDD Sverige, the Swedish network in the European Institute for Design and Disability.¹⁶

In Finland the Finnish Design for All Network, the Finnish member of EDeAN, has launched in November 2003 a three-year Design for All education development project, at present with six university and three polytechnics partners. All universities and polytechnics already teach DfA courses, but not as part of a strategic plan. The aim of the development project is to develop a multi-disciplinary, cross-disciplinary set of Design for All courses in the virtual university context, providing accessible online courses for students in all partner universities. A complete survey on state of the art of Finnish Design for All education in higher education will be done during spring term 2004. Accessibility training for content producers and the technical staff of virtual university units will be provided at the same time. The production of courses will begin fall term 2004 and finish by December 2006. The students can either choose the set as a minor subject in their degree or select courses that would fit in their individual study programmes.

The strategic approach in the Finnish project is that the same universities and polytechnics are members in another Design for All related project — University for All. The major objective of this project is to encourage universities to produce a Design for All strategy, with focus on built environment, communication, content of education (curricula), and

¹⁵ <http://www.recherche.gouv.fr/appel/2003/usagesinternet.htm>

¹⁶ The Swedish EIDD network EIDD Sverige website, <http://www.eidd.nu/> and the Universal Design Education Project Sweden website <http://www.universaldesign-sweden.se>

inclusion of university students and staff. The above mentioned Design for All education project is under the umbrella of the wider University for All project.¹⁷ All above mentioned cases are examples of a bottom-up approach. The initiative for the projects has come from the university level, and to begin with, from individual, committed teachers, experts on Design for All.

Within Greece there is as yet little coordinated effort to introduce Design for All as a subject within the curriculum. This is not to say that there is not research going on in areas related to design for all, assistive technology, and special education needs. The University of Crete is compiling this information. This task is followed by the GR-DeAN,¹⁸ coordinated by ICS-FORTH and ESAEA (the National Confederation of People with Disability of Greece). It is also worth mentioning that Design for All is taught at the Department of Computer Science of the University of Crete since the early 90's, as a part of an advanced Human-Computer Interaction course. One of the benefits of this compilation, as well as helping to create a map of who is working on what within Greece, will be to use it to help to understand how best a national policy on design for all within Higher education can be fostered.

At present, in Ireland, several Universities and Institutions are making significant efforts to introduce elements of Design for All within existing curricula, however, there is very little communication between individual players in the field and little co-ordination. The majority of third level institutions in Ireland have developed support services to ensure the inclusion student's with disabilities but this has not been translated into new curricula in inclusion or DfA. There is no legislated requirement at present for inclusion of DfA coursework within particular educational curricula.

One example where the implementation of DfA within third level educational curricula is evident in Ireland is where the Central Remedial Clinic (CRC) is responsible for delivering DfA content as an optional module during the final year of the Bachelor of Science programme in Computer Science in Kevin Street DIT (Dublin Institute of Technology). This module has been in place since 1997 but has recently seen some revision to include new information reflecting the taxonomy developed as part of IDCnet's activities as outlined in Deliverable 3.2.

Various aspects of DfA as it related to Assistive Technology products and services are also delivered as part of the Certificate and Diploma programmes in Assistive Technology in University College Dublin (UCD) for the last five years. The implementation of such courses has illustrated the benefits of partnerships between all players in the DfA field in the development and delivery of coursework.

¹⁷ For more information, check <http://www.stakes.fi/DfA-Suomi>, the website of the Finnish DfA network

¹⁸ <http://www.e-accessibility.gr/index.asp?auto-redirect=true&accept-initial-profile=standard>

Universities sometimes host National Centres of Excellence. One example is RINCE, the Research Centre for Networks and Communications Engineering at Dublin City University, Ireland. The centre includes eAccessibility lab, which is also a member of the EDeAN network; the Lab's research work concentrates mainly on web accessibility.¹⁹

A different case in scale and approach to some extent is Norway, where a large part of the activities round Design for All education — or as the Norwegians say, universal design, universell utforming — relate to the US experience on universal design education. The international Global Universal Design Educator's Network,²⁰ under the leadership of Elaine Ostroff, by now the former director of Adaptive Environments in Boston, was consulted by the Norwegians already some years ago to establish universal design courses in Norwegian universities. Simultaneously, the Norwegians developed a policy approach to universal design with the result, that Norway is now a country, where all sectorial ministries are since 2002 expected to have a universal design policy.²¹ More on this can be found in the chapter 3.5.

In some cases the European universities have used implementation of the recommendations for Design for All education in the built environment, produced by the Council of Europe in 2001 as a relevant reference point when searching for financial support from the public bodies in their countries²². The public bodies can have been relevant ministries or other funding organisations.

The EU, through DG on Education and Culture and its programmes Socrates and Erasmus has funded a large number of curriculum development projects. These projects have, according to the IDCnet report on identification of DfA core knowledge sets, supported three types of activities in the area of curricula jointly developed by universities.

- Projects for the *joint development of "study programmes"* at any level, from undergraduate to intermediate, advanced (Masters degree) and Ph.D. level;
- Projects for the *joint development of European "modules"*, such as specialised language modules; courses on history, society, culture, politics of other European countries; aspects on European integration or comparative aspects relating to the content of a given discipline;

¹⁹ <http://eaccess.rince.ie/>

²⁰ <http://www.universaldesign.net/>

²¹ The Norwegian policy/action programme on Design for All / universal design: Handlingsprogram for Universell utforming, published by Miljøverndepartementet November 2002

²² Council of Europe, Committee of Ministers: Resolution ResAP(2001)1 on the introduction of the principles of universal design into the curricula of all occupations working on the built environment, Adopted by the Committee of Ministers on 15 February 2001, at the 742nd meeting of the Ministers Deputies

- Projects for the *implementation and dissemination of curriculum development projects* which have completed their development phase.

IDCnet differs from these curriculum development projects in that while it did seek to meet the needs of industry, there are no other external groups, such as formal associations from which it can seek approval or accreditation. Nor does IDCnet want to view Design for All as specialised education. Rather it sees that knowledge about Design for All should be 'infiltrated' into various disciplines and curricula.

IDCnet however, does place great store on informing policy making, because it is important in this time of changing curricula to make sure that the re-engineered curricula include Design for All. A survey completed on EU funded curriculum development projects in 1996-1998²³, revealed that:

- Considering the content and methods, a high percentage of projects (66%) reported having an interdisciplinary focus. This may be related to the fact that much cutting-edge research is now being carried out in interdisciplinary areas and that the labour market expresses the need for fewer single subject specialists and for more people who are capable of working in interdisciplinary fields.

As noted above and elsewhere, Design for All is in essence a horizontal subject, which needs to be incorporated into design sectors of all types, everywhere where human users are involved.

- Problems led to readjustment of objectives: In two cases (13%), the development of joint (core) curriculum was replaced by the development of a broader body of knowledge. One of the greatest problems was the difficulty of integrating the courses or curricula into the existing study programmes. Institutional, national, and disciplinary barriers were mentioned by the project leaders as contributing factors.

This is one of the major reasons why IDCnet has as part of its activity to influence educational and research policies and strategies. Also, here the Bologna agreement and the implementation of the European Credit Transfer System come to support this interest.

3.1.1 Quality Assurance

The issue of quality assurance in higher education institutions is high on the European agenda. The Bologna Declaration (1999), key document in the establishment of the European area of higher education, states as one of its objectives the "promotion of European co-operation in quality assurance with a view to developing comparable criteria and

²³ Klemperer, A. and van der Wende, M. Erasmus Curriculum development projects, in Socrates 2000 Evaluation Study 23.10.2001

methodologies". In the follow-up communiqués to Bologna, there has been further emphasis on the topic. In Prague in 2001 Ministers of Education called upon universities, other higher education institutions, national agencies and European Network of Quality Assurance in Higher Education (ENQA) to collaborate in establishing a common framework of reference, and to disseminate good practice. The Berlin Communiqué (2003) underlined the importance of quality assurance even more, noting that it is proven to be at the heart of the setting up of a European Higher Education Area (EHEA).

Stress at the moment is on the need to develop mutually shared criteria and methodologies on quality assurance, while protecting institutional autonomy. As the Berlin Communiqué states, "the primary responsibility for quality assurance in higher education lies with each institution itself and this provides the basis for real accountability of the academic system within the national quality framework". It was agreed in Berlin that by 2005 national quality assurance systems should include:

- A definition of the responsibilities of the bodies and institutions involved.
- Evaluation of programmes or institutions, including internal assessment, external review, participation of students and the publication of results.
- A system of accreditation, certification or comparable procedures.
- International participation, co-operation and networking.

ENQA is working in co-operation with European University Association (EUA), European Association of Institutions in Higher Education (EURASHE) and the National Union of Students (ESIB) to bring forward the quality assurance lines of Berlin Communiqué.

European quality procedures have extended both in scope and in type of evaluation method used since 1999, but vary considerably from country to country: procedures often build on the same methodological principles, however, there are many differences between the application of methods to the national and institutional contexts. ENQA survey "Quality Procedures in European Higher Education" (2002)²⁴ aimed to document and analyse the methodological state-of-art in general terms with the emphasis on the types of evaluation used; this survey is one of the results of co-operation called for in the Prague Communiqué led by ENQA. The major focus of the process as a whole is "the extent, to which national external quality assurance procedures may meet the Bologna requirements for European compatibility and transparency."²⁵

²⁴ The Danish Evaluation Institute (2002) **Quality procedures in European Higher Education - an ENQA survey**, Helsinki: European Network for Quality Assurance in Higher Education.

²⁵ Ibid. p. 3.

Most European countries have established autonomous quality assurance agencies, either on regional or national level. These agencies are most common in the university sector but also cover some of the non-university sector. How they work is usually dependent on the national higher education system. There has also been an appearance of accreditation agencies – a trend that corresponds with an increased focus on accountability as objective of the performed activities. Transparency and comparability are two other highly emphasised objectives.

ENQA survey identified eight main types of evaluation: subject evaluation, programme evaluation, institutional evaluation, programme accreditation, institutional accreditation, institutional audit, subject benchmarking and programme benchmarking.²⁶ Principle types are 'accreditation of programmes' and 'evaluation of methods'; many agencies carry out several types of evaluations and majority of them use the two methods singled out above on regular basis. Traditional evaluation is still the most preferred method that can be used with different foci; accreditation is most used in associated countries and German and Dutch speaking countries, although there can be big variations in the procedures of accreditation.

Different evaluation types also cause differentiation in evaluation methods, however, the four stage model, identified by the European Council, is still the most common. It is "a process involving independent quality assurance agencies, an internal self-examination component and an external component based by appraisal and visit by external experts and the publication of a report."²⁷ Although sometimes a report as such is not published, there is always some kind of follow-up procedure.

Another common feature emerging is the use of criteria and standards; almost all agencies use some kind of criteria or 'fitness for purpose' approach. In accreditation procedures threshold criteria or minimum standards are used in order to pass judgement, but other evaluation procedures apply criteria as well, e.g., when 'good practice' criteria are used. However, in many countries criteria used is not clearly formulated. If it is, it may have been put together by an agency, a government body, an expert group, or a professional organisation, or by different stakeholders jointly.

3.2 European networks of higher education institutions

CESAER is the Conference of European Schools for Advanced Engineering Education and Research,²⁸ and has a membership of about 50 universities in Western and Central Europe. Although not directly involved with Design for All activities, the organisation monitors interdisciplinary curricula and is

²⁶ Ibid. p. 18

²⁷ Ibid. p. 7

²⁸ <http://www.cesaer.org>

concerned especially about soft skills European engineers might need in the future.

Cumulus, European Association of Universities and Colleges of Art, Design and Media is an international design school and university network with more than 50 members originally from Europe, but since spring 2003 also from all other continents.²⁹

Cumulus network started as an Erasmus, later a Socrates, initiative to encourage student and staff exchange between a small number of European design schools and universities. The University of Art and Design in Helsinki (UIAH) and the Royal College of Art in London, in co-operation with Danmarks Designskole, Gerrit Rietveld Academy, Universität Gesamthochschule Essen and Hochschule für Angewandte Kunst in Vienna initiated the Cumulus Network in 1990.

Over the years the network has expanded, and its role has become more strategic and political. The network has, e.g., developed joint European curricula on master's degree level and it has supported countries, where design education has been only on the BA level, to develop MA degree courses and establish PhD education.

Design for All approach has so far been on the Cumulus agenda in a rather fragmentary way. Design for All approach was planned to become one of the focus topics in the development of the European Fellowship on Industrial Design in 1996-1997, a master's degree pilot programme, but the programme did not materialise. In May 2003, Design for All was the topic of the keynote speech and one of the workshops in the international Cumulus Conference in Tallinn with 300 participants round the world. It seems that the time is ripe, and social issues related to design are in the interest of especially young design students.

SEFI is the European Association for Engineering Education³⁰ and sees itself as a European Forum and a service to Institutions, academic staff, students and industry. Although not directly involved with policy making, it aims to contribute to the development and improvement of engineering education in Europe.

3.3 National professional organisations related to implementation of Design for All policies and practices

Professional organisations of designers or engineers on national level generally speaking have a lot of policy influence in relation to higher education. In some EU countries professional organisations play a definite key role in the accreditation of degree courses and curricula. Also in countries where the professional organisations do not have this role, they

²⁹ <http://tmo.uiah.fi/cumulus/>

³⁰ <http://www.sefi.be>

still participate in the policy and strategy discussions to define the future direction of both education and research.

Many countries now have either a long term design policy programme or an architectural policy programme or both (see e.g., Designium,³¹ and two publications, Quality and Content of International Design Education, Design Policy Report). The policy programmes are approved by the government and produced as a joint effort of major design/architecture bodies in the country.

In most of the policy programmes, be they on design or architecture, Design for All does not directly show. An exception in this case is the Swedish design policy programme, which has Design for All approach integrated in especially two of the four focus areas, the programme identifies, namely design for healthy work environments and design for care and health³². The architectural policy programme of Scotland also specifically mentions implementation of inclusive design.

In many design and architectural policy programmes sustainable development is mentioned, in some even the socially sustainable development. Also, equality or inclusion is mentioned in some policy programmes. Both socially sustainable development and equality or inclusion could perhaps be interpreted to pave the way to Design for All approach in the next phase. For example in Finland, both the Design 2005! Design policy programme and the architectural policy programme are half way through their five-year term, and in the mid-term report, both policy programmes are planning to mention the grown interest in Design for All approach.

The German Society for Informatics (Gesellschaft für Informatik) has developed a code of ethics which currently does not address design for all³³. However, the code refers to "everyone wins solutions" ("jeder gewinnt-Lösungen") for determining the scope of activities of a professional.

Here it is worth mentioning also that some national designer organisations have joined the national member network in the European Design for All e-Accessibility network.

3.4 European networks or professional umbrella organisations related to implementation of Design for All policies and practices

EDeAN, The European Design for All e-Accessibility Network,³⁴ is the result of the eEurope 2002 action programme objective to establish Design for

³¹ <http://www.uiah.fi/subfrontpage.asp?path=1;1457;2160;7450;7451>

³² The programme can be found on the website of The Swedish Industrial Design Foundation <http://www.svid.se>

³³ <http://www.gi-ev.de/verein/struktur/index-ethik.html>

³⁴ <http://e-accessibility.org>

All centres of excellence networks in EU member countries during the year 2002.

The national networks in all present EU countries have been established, including a Norwegian EDeAN network. The total number of member organisations in EDeAN is around 120 (February 2004). Member organisations are typically universities, research institutions, NGOs representing users, i.e., disability organisations or ageing persons' organisations. The total number of university or research institutions adds up to almost 45% of all member organisations.

One of the major tasks for EDeAN, outlined by the eEurope 2002 action programme and further specifically defined by the EDeAN Charter from autumn 2003 is to participate in the development of Design for All curricula and the implementation of recommendations on European Design for All curricula, to be produced by the EU Commission by the end of 2003.

A number of EDeAN networks also participate in Design for All education development projects on the national level, i.e. Belgium, Finland, Spain and Sweden.

AAATE, the Association for the Advancement of Assistive Technology in Europe³⁵ is an established European network with a special focus on research on assistive technology, but the network has also actively contributed to the development of Design for All concept. Lately, discussion on the relationship between Assistive Technology and Design for All has been high on the agenda, especially interesting in relation to the development of R&D policies on AT and DfA in Europe.

EIDD, European Institute for Design and Disability, is a 10-year old network established in Dublin, Ireland in 1993 to include disabled persons in society through design. The approach of this network has later shifted to a more mainstream approach on inclusion and design — to enhance quality of life through Design for All. EIDD has very recently, in its annual general meeting in Stockholm on 8 May 2004, published a declaration, the EIDD Stockholm Declaration, where the network states that 'Design for All is design for human diversity, social inclusion and equality', and calls on the European institutions and national, regional and local governments as well as professionals, businesses and social actors to appropriate measures to implement Design for All.

Many national EIDD member networks or member organisations are also members of EDeAN. Many national EIDD networks also run local or national Design for All curriculum development projects.

Architect council of Europe, ACE,³⁶ currently represents around 350,000 architects in Europe. The council does not make a direct comment regarding Design for All, nor does it recognise the Council of Europe

³⁵ <http://www.aaate.net/>

³⁶ <http://www.ace-cae.org>

recommendations on DfA education for built environment. However, the ACE acknowledges the importance of sustainable development, which comprised of environmental protection, economic efficacy and social solidarity: the architect reconciles human well being, social needs and environmental quality.

BEDA, the Bureau of European Designer Associations³⁷ is the European umbrella organisation of national professional designer organisations. BEDA discusses the development of the design profession regularly with the European Commission, mainly with the DG on Enterprise and on Research.

In 2002, BEDA initiated a discussion among the major design actors in Europe to strengthen the role of the design field towards the European Commission. The initiative was titled DesignEurope. Design for All was identified by BEDA as one of the key fields of design, and EIDD was invited to represent the socially conscious approach to design in the initial DesignEurope discussions.

3.5 Governmental bodies in Europe, primarily ministries of education and those related to information society issues

Desk survey of education and research policy documents show that the state of the art in ministries of education in EU countries in general is that they do not have Design for All policies. Education and policy documents often refer to concepts like equality and inclusion, but Design for All is not explicitly mentioned.

An exception is Spain, where the most relevant event regarding the inclusion of DfA in Spanish curricula has to do with the recent 'Law on Equality of Opportunities, No Discrimination and Universal Accessibility for People with Disabilities'³⁸ of December 2003. According to the Tenth Final Disposition of this law the Government has to develop a DfA curriculum before two years, in every educational programme, including University. This applies to careers regarding both the built environment and the information society which is explicitly referenced.

Another important policy document is the 'First Accessibility National Plan 2004-2012'³⁹ of July 2003. The first (out of five) stated objective of this plan is 'to consolidate the DfA paradigm and to mainstream it into the new products, environments and services, and to disseminate the accessibility knowledge and application'. Some strategies are foreseen to achieve this objective. The Third Strategy is to 'Incorporate DfA in University Curricula' and includes the introduction of a specific DfA module in some university courses and a contest for Final Year Projects related with DfA. The Fourth

³⁷ <http://www.beda.org/>

³⁸ <http://www.sidar.org/recur/direc/legis/espaspa.php>

³⁹ http://www.seg-social.es/imserso/discapacidad/docs/ipna2004_2012.pdf

Strategy relates to 'Incorporate DfA in Primary Education' and talks about introducing DfA Concepts and Accessibility to the Physical Environment to primary school children in the whole country.

Exception in Europe is also Norway, where 'universell utforming' policies — the term adopted from the USA, universal design — are developed by all sectorial ministries since 2002, including the ministry of education and research. The focus on the action programme, Handlingsprogram for universell utforming, is on 'improving functional qualities of solutions for all'. The focus therefore is on the built environment. The implication for education is improved quality in school and university environments, hence improving inclusion. The growing role of Information and Communication Technologies (ICT in Norwegian IKT) is also recognised in the programme.⁴⁰

In Greece, a new Information Society strategy document is presently being prepared (December 2003) for 2004. The draft of this document shows that there is a shift away from a technical approach to a human centred approach. There is a note on the importance of education and the necessity of delivering online educational services that can be used by all, but mostly stress is placed on the need for all citizens to have access to public administration services and applications. This requires a DfA approach, which, it is explained, is not making specialised accommodations, but taking unified design approach which takes into account a wider range of problems than usual with regard to the accessibility and usability of Information Society Applications and Services, and the adaptation of and multi usage of applications and services to counteract the need for reliability, and sustainability of investment.

In 2004, a British Standard on 'Inclusive Design Management' will be published as part of the BS 7000 series, giving guidance to business and industry. Key drivers are the rapid ageing of populations, and the trend to include disabled and older people in the mainstream of society, both of which are supported by a growing body of legislation and UN declarations.

In Ireland, several government departments currently have responsibility for the development of ICT policy. This dispersal of responsibility means that policy making and information provision in Ireland in the areas of ICT and Design for All are not co-ordinated at present. DfA falls within the remit of the Department of Justice, where the Department of An Taoiseach (Prime Minister) is responsible for the provision of ICT policy whereas the responsibility for ICT educational policy lies firmly within the remit of the Department of Education.

Many statutory and non-statutory reports over the past number of years including the recent "eInclusion, Expanding the Information Society in

⁴⁰ The Norwegian policy/action programme on Design for All / universal design: Handlingsprogram for Universell utforming, published by Miljøverndepartementet November 2002

Ireland"⁴¹, commissioned by the Information Society Commission and the Department of an Taoiseach, have stressed the need to provide Irish Citizens with access to and inclusion in Information and Communications Technology (ICT) training and education, however none have, as yet, stressed the need to include DfA in ICT curricula. The only explicit mention of DfA within this report, simply stresses that the adoption of DfA approaches and standards can ensure inclusion in the new Knowledge Society.

The experiences of delivering DfA within Irish Educational Institutions is such that although it is possible to implement the inclusion of DfA coursework across curricula without the need for ongoing or post-graduate research, the lack of communication between industry, research and education and clear commitment from the Irish government, inclusion is piecemeal and therefore lacks the impact required to sustain change.

Actions have been taken also in the Netherlands where KITZ (KwaliteitsInstituut voor Toegepaste TuisZorgvernieuwing) has on behalf of the Ministries of Health, Welfare and Sport; Social Affairs and Planning; Transport, Public Works and Water Management and the Ministry of Economic Affairs, produced a Design for All document in March 2004. The document discusses the concept of Design for All, brings case studies on DfA on board, and recognises that Design for All approach also requires policy level actions.⁴² E.g. Henk Schrama, the Director Division for Occupational Health and Safety and Sick Leave Policy, at the Ministry of Social Affairs and Employment, refers to the need to raise awareness about the DfA concept among designers, manufacturers, consumers, employers, employees and their organisations. He also reminds that we need to monitor best practice and we also need a deeper understanding of costs and cost benefits.⁴³ Perhaps surprisingly, there is no direct reference to Design for All education in the document and no discussion on the need for research. On the other hand, the case studies presented are direct knowledge transfer from research and development projects. The Nordic Council⁴⁴ is the forum for inter-parliamentary cooperation between Sweden, Finland, Denmark, Norway and Iceland. Nordic Cooperation on Disability and the Nordic Council on Disability policy are both organisations under the Nordic Minister council. These bodies are active in planning a more accessible and functional society for everybody.

In 2004 the Council of Ministers intends to formulate an action plan which would strengthen the notion of sector responsibility within the Minister Council for issues concerning people with restricted mobility and also for issues furthering the principles of universal design. Nordic Council on

⁴¹ <http://www.isc.ie/downloads/einclusion.pdf>

⁴² The document can be found at the website address http://www.kitz.nl/product/pdf/2004_march.pdf

⁴³ Design for All document by KITZ, p. 26

⁴⁴ <http://www.norden.org>

Disability Policy is an advisory and policymaking body for the Nordic Council of Ministers.

One of the aims of the Nordic Minister Council is to strive towards a socially sustainable development and a society of equal opportunities.

3.6 National bodies funding Design for All research

In Europe, the main responsibility for funding IST related projects falls on the state. However, actual practices can vary greatly from one country to another. In some cases, each Ministry has its own area of responsibility for ITS issues, in others the job falls on publicly funded R&D bodies. The emphasis on the Information society on European level has also seen the rise of Ministries or research bodies whose sole responsibility is ITS and the knowledge society research and development.

TEKES, the Finnish Technology Development Centre, as well as the Finnish Academy are both public bodies that have so far taken the main responsibility for funding ICT and eInclusion related projects in Finland. For example both fund the Future Home project undertaken by the University of Art and Design. However, Finnish Design for All education development project initiated by the Finnish Design for All network has sought funding from the Ministry of Education.

EQUAL (Extend Quality Life) is a national research initiative in the UK designed to encourage university based academics and researchers to become involved with quality of life research for the benefit of older people and disabled people, and more generally to meet the challenges of the ageing population in the United Kingdom. Initiated by the Government's Office of Science and Technology, the objective of EQUAL spans all the research councils, e.g. the Engineering and Physical Sciences Research Council⁴⁵, the UK Government's leading funding agency for research and training in engineering and the physical sciences.

The Federal Ministry for Research and Technology, Germany (Bundesministerium für Forschung und Technologie, BMFT) funded the InnoRegio Initiative KONUS with 18 Mio DM, (9 Mio Euro) to support educational use of IT for visually disabled people between 1999 and 2003.⁴⁶

3.7 European bodies

In the EU context, Design for All related activities have been notably strong in the following areas: DG Employment and Social Affairs, DG Information Society, and in the context of framework programmes that

⁴⁵ <http://www.epsrc.ac.uk>

⁴⁶ <http://www.region-konus.de/>

guide the five-year long EU funded research and development programmes.

In the R&D framework programmes, Design for All has been implicitly included in the specific research programmes since the 4th framework programme from early 1990's onward. The presence of Design for All concept has been strongest in the programme field of Information Society Technologies, and to lesser extent in the field of Quality of Life. In the EU context, the development of European Information Society has long been high on the political agenda, and part of the agenda has been the objective Information Society for All. This can be considered to have affected the emergence and strengthening of Design for All approach.

Disability movement's activity cannot be forgotten here, neither can the realisation be forgotten, that ageing population will put new challenges in many realms of European life in the following decades. On the European level, the needs of disabled users and the needs of ageing users have often been the reason to raise the Design for All approach on the agenda too. For example, The European Disability Forum (EDF)⁴⁷ represents a broad range of disability organisation within EU and from Iceland and Norway and is active in promoting legislation based standardisation relying on Design for All principles.

eEurope initiative was launched in 1999 by the European Council and has since had a broad political impact leading to many initiatives in Member States and on European level. With regard to the establishment of centres of excellence in Design for All and the development of DfA Curriculum the key document was the eEurope 2002 Action Plan which specifically stated the need for these and also emphasised as one of its objectives the participation for all in the knowledge-based society.

If Design for All curriculum or education for ICT has since been mentioned in EU context, it has been done with direct reference to eEurope 2002 Action Plan, otherwise they can only be noted by their absence. Indeed, although the action plan that followed, eEurope2005, has in its aims to provide opportunities for people to participate in society, it has no specific action line on e-accessibility measures, a decision that was criticised for example by the EDF.

3.8 IT industry

The communications strategy and implementation of it for the European Year for Disabled Persons 2003 was developed by the communications agency Ogilvy, who also developed a collaborative partnership programme with ten major multinational companies mainly from information

⁴⁷ <http://www.edf-feph.org/en/welcome.htm>

technology sector. These companies were involved in the Business and Disability seminar organised in Brussels in November 2003.⁴⁸

One of the messages from the IT industry present in the seminar was that accessibility is not necessarily part of the professional practice for recent graduates and therefore industry needs to train them in-house. Companies like Microsoft emphasise the importance of awareness in ensuring their products are accessible. As Bonnie Kearney from Microsoft emphasised the awareness of developers of the needs and requirements of people with disabilities: "Microsoft works on partnering with educational institutions and seeks to impact their curricula, so that developers are taught about accessibility needs before they enter the marketplace".⁴⁹ The message is strong towards educational institutions.

3.9 Innovation Policies in Europe

Innovation, in short, can be described as the exploitation of new ideas. Innovation policies, in general, aim to foster economic growth by creating favourable activities for innovative activities and the field is evolving rapidly in response to globalisation and the knowledge economy. Although a term mainly used by industrial and science policy makers, successful innovation policy can be one of the keys to better quality of life for everybody. As DTI's 'Competing in the Global Economy' report states:

For consumers, innovation means higher quality and better value goods, more efficient services ...and higher standards of living. For businesses, innovation means sustained or improved growth. The innovative company or organisation delivers higher profits for its owners and investors. For employees, innovation means new and more interesting work, better skills and higher wages.⁵⁰

Innovation Policy in Europe 2002 document states that stimulation of public sector as driver of innovation is a typically European issue; the document also emphasises the importance of transnational policy learning and benchmarking national performance against foreign 'good practice'. Both Good NIP report and Department of Trade and Industry's (UK) 'Competing in the Global Economy', although somewhat different in their foci, also acknowledge the role of national governments in creating the best possible conditions for innovation; governments also, in most cases, create innovation policies and co-ordinate different related policy fields.

Education and research and development are some of the driving forces behind innovation. Innovation is based on learning and companies' ability to learn is largely reliant on their employees' "absorptive capacities."⁵¹ Universities are important to innovation as they can develop advanced

⁴⁸ http://www.eypd2003.org/eypd/about/partners_en.jsp

⁴⁹ http://www.eypd2003.org/eypd/docs/walking_the_talk.pdf

⁵⁰ DTI: Competing in the Global Economy - The Innovation Challenge, p. 9.

⁵¹ Good Practices in Nordic Innovation Policies, p. 1.

technological competence especially because they can pursue high-risk, long-term, research better than businesses; universities can also influence firms' innovative capabilities by delivering high skilled labour.

Many countries have recognised the need for increased co-operation between universities and the industry: indeed, this co-operation can be seen as the 'third mission' in addition to the more traditional roles of education and research.⁵² For example, Nordic countries have assigned central role to university-industry co-operation in policy development particularly with the view of supporting the innovative capabilities of small and medium-sized enterprises that account for large majority of businesses⁵³ in the area. In the UK, Research Councils have significantly increased the rate of knowledge transfer from their research activities.

The DTI's thorough 'Competing in the Global Economy - the Innovation Challenge' report pays particular attention to the issue of design and innovation. It points out that "design skills are vital to business innovation and can significantly enhance a company's financial performance... In short, the most successful, growing and imaginative companies use design to enable innovation"⁵⁴. Same report also considers the fact that an increasingly diverse population is driving demand for an equally diverse range of products and services. This can be seen as contributing to the importance of design and innovation, however, the stress in the report is placed on diverse work force and its ability to anticipate the demands of a diverse market place. 'Competing in the Global Economy' goes on to state, that 'for example, increasing the numbers of disabled people in design and engineering occupations would encourage the design and manufacture of product that really work for this sector of the population'⁵⁵.

Recent theorising has seen the rise in reports on creativity as the driving force behind economic growth and prosperity: according to the 'Europe in the Creative Age' report ability to compete and prosper is reliant on nations' ability to attract, retain and develop creative people. Indicators for creativity are based on the 3T's of economic development - Technology, Talent and Tolerance; innovation is part of the Technology Index.

The report recognises a tension in Europe that is based on values: to identify oneself with a quality of life based on social equality and secular liberalism is increasingly difficult; social and economic decision-making have become separated from each other and issues such as social inclusion and cohesion, education and culture have a low status and are weakly articulated. The importance of tolerance - the openness to new people and ideas - is paramount: "dynamic knowledge-economies do not beget social cohesion; rather certain kinds of social cohesion can beget

⁵² Innovation Policy in Europe 2002, p.3, 23

⁵³ SME's and the new role of academic research in four Nordic countries, p. 8

⁵⁴ Competing in the Global Economy - the Innovation Challenge, p. 40

⁵⁵ Ibid. p. 48

dynamic knowledge-economies"⁵⁶. Finnish Ministry of Education's 'Creativity Report' also emphasises creativity evident in everyday life and notes that particularly in the application of new technologies users' experience and knowledge should be emphasised - this is still 'blind spot' in the development of creativity⁵⁷.

3.10 Reference — USA

The US education and research system is non-centralized and the levels of institutions involved in development of education and research range from federal and government agencies to professional societies and discipline-based accrediting bodies. Notwithstanding, the role of legislation, especially the role of American with Disabilities Act (1990) and Electronic and Information Technology Accessibility Standards, Section 508 of the Rehabilitation Act Amendments (1998) are well recognised in the context of recent developments of Universal Design education and research in the USA.⁵⁸ On the other hand, the role of individual champions should not be overlooked.⁵⁹

One of the designers in the USA whose work has been a major influence in universal design education is Ray Lifchez. He began teaching architecture at the University of California, Berkley in 1973, by involving users in the traditional design studio as a way to introduce students to the opportunities of designing for someone unlike themselves. Ray Lifchez tells himself that the root of his teaching universal design lay in his interest and involvement in the disability movement, coinciding with his arrival to Berkeley in 1970. At the time, the University of Berkeley had established a new institution, The Center for Independent Living, created by young people with physical disabilities. Alongside this subculture was the University of California itself, committed to making higher education accessible to physically disabled students.⁶⁰

Two other individuals whose role can not be overlooked in this context are Ron Mace and Elaine Ostroff. Architect Ron Mace was the father of the Universal Design concept from 1985. Ron Mace significantly noted, in the context of Americans with Disabilities Act (1990), that minimum standards are an important part, but not the definition of universal design. His 1998 definition of universal design is much quoted: 'Universal design is an

⁵⁶ Demos: Europe in the Creative Age (2004), p.9

⁵⁷ Ministry of Education (Finland): Creativity Report: Proposal on how to create and implement a creativity strategy, p. 14

⁵⁸ E.g. Elaine Ostroff: Strategies for Teaching and Recruiting Designers for an Inclusive World. Paper presented in the EIDD Scientific Contact Forum on 17 May 2002, Brussels; and Louise Jones: Integrating Universal Design into the Interior Design Curriculum, in Preiser, W.F.E. and Ostroff, E. (Eds.) Universal Design Handbook. New York: McGraw-Hill. Also: interview of Elaine Ostroff, former director of Adaptive Environments, Boston, USA and Laurie Ringaert, Managing Director of Universal Design Research Center at the North Carolina University, USA, on 6 Dec 2003, Washington DC.

⁵⁹ Interview with Elaine Ostroff, on 6 Dec 2003, Washington DC.

⁶⁰ Lifchez, R. 2002. 'Introduction'. In Ostroff, E.; Limont, M. And Hunter, D. Building a World Fit for People: Designers with Disabilities at Work. Boston, MA: Adaptive Environments Center.

approach to design that incorporates products as well as building features, which, to the greatest extent possible, can be used by everyone.⁶¹

Elaine Ostroff is the founding director of the Adaptive Environments in Boston and the director of the Global Universal Design Education Project. Her involvement in the development of universal design education in the USA has been strong and energetic, and the Universal Design Education project she initiated at the early 1990's has progressed until the present time, the Universal Design Education Online, at <http://udeducation.org> is one of the major fruits of the long term development.

In the US system, the US Department of Education represents a government level institution, and its primary mission is to strengthen the Federal commitment to assuring access to equal educational opportunity for every individual. Its tasks include supplementing and complementing the efforts of states, the local school systems and other instrumentalities of the states, the private sector, public and private nonprofit educational research institutions, community-based organizations, parents, and students to improve the quality of education. In the strategic plan 2002-2007, goal five closely relates to inclusion: '5.1 Reduce the gaps in college access and completion among student populations differing by race/ethnicity, socioeconomic status, and disability while increasing the educational attainment of all'.⁶²

One of the key offices under the Department of Education in the universal design context is the Office of Special Education and Rehabilitative Services (OSERS)⁶³. OSERS provides a wide array of supports to e.g. states in three main areas: special education, vocational rehabilitation and research. In the realm of research, The National Institute on Disability and Rehabilitation Research (NIDRR) provides leadership and support for a comprehensive programme of research related to the rehabilitation of individuals with disabilities. NIDRR has supported Universal Design education and research initiatives for years, e.g. through financial support to Universal Design Research Centres in the North Carolina State University and in the University of Buffalo, NY. The NIDRR funding is based on long term strategy development, and e.g. in the field of universal design experts are consulted for input to identify priority areas for research. The new five-year programme for universal design research will stand in force starting October 2004.

In the level of curriculum development in universities, accreditation of degrees lies with the Regional Accrediting Organisations and Accrediting Organisations in Specific Subjects. Regional Accrediting Organisations cover six territories and they accredit all degrees, in all subject areas, in an entire university. Accrediting Organisations in specific subjects cover

⁶¹ E.g. in Preiser, W.F.E. and Ostroff, E. (Eds.) Universal Design Handbook. New York: McGraw-Hill, 2002.

⁶² <http://www.ed.gov/about/reports/strat/plan2002-07/plan.doc>

⁶³ <http://www.ed.gov/about/offices/list/osers/aboutus.html>

e.g. arts, computer science, engineering&technology, and architecture. In this context, universal design education in the USA has been advanced e.g. through position papers produced by the universal design experts.⁶⁴

The primary role of the accreditation organisations is to produce performance criteria, which then are interpreted by individual schools. Performance criteria are produced in collaboration with professional organisations.

A large body of universal design teaching experiments exist by now in the US, some formally and in detail documented through elaborate pilot programmes like the Universal Design Education Programme, others shared at conferences and on web sites.⁶⁵

A key effort to support the universal design education development in the USA was initiated by the Adaptive Environments Center in Boston, Massachusetts, already in 1989. The Universal Design Education Project (UDEP) was planned when the Americans with the Disabilities Act (ADA) was about to be signed. The objective was to infuse universal design into the curriculum of five design disciplines — architecture, industrial design, interior design, landscape architecture, and urban planning.

UDEP was initiated with a grant from the National Endowment for the Arts, with additional funding from the NEC Foundation of America, the US Department of Justice, and the Center for Universal Design and some other foundations.

The project began in 1991 with the support of the professional design societies, who invited relevant faculties to submit proposals based on the culture of their own schools, and their own experience and teaching styles. The grass-root effort was chosen to support a range of teaching methods and to support local cultures. The UDEP advisory group assisted in the review process to select the schools.

The first pilot project was run in the academic year 1993-94 with twenty-two schools involved across the USA. Some of the faculty teams were interdisciplinary, others were in architecture, industrial design, interior design, and landscape architecture but none from the urban design programmes. Many of the selected faculties selected through a competitive award process already had strong experience in teaching accessible design.⁶⁶ The whole pilot project is documented in detail in *The Strategies for teaching Universal Design, with case studies of twenty-one programmes* (Welch, 1995).

⁶⁴ Interview with Elaine Ostroff and Laurie Ringaert, 6 Dec 2003, Washington DC.

⁶⁵ See e.g. <http://www.udeducation.org> for an elaborate list.

⁶⁶ The following schools were selected to participate in the first UDEP pilot: California Polytechnic State University, Iowa State University, Kansas State University, Louisiana State University, Massachusetts Institute of Technology, Miami University, Michigan State University, North Dakota State University, Norwich University, Pratt Institute, Purdue University, Ringling School of Art and Design, State University of New York at Buffalo, Texas Tech University, University of Michigan, University of Missouri, University of South Florida, University of Southwestern Louisiana, University of Tennessee, Virginia Polytechnic Institute and State University, Virginia Polytechnic Institute and State University

The faculty work was supported with several project components. Members of the advisory group had partnerships with each of the schools, and this contact included visits to the schools, with lectures open to the public, meetings with administrations, and critiques of student work. The faculty and project staff gave presentations of the project at the annual meetings of the related design societies, to generate interest in universal design.⁶⁷ Annual project meetings facilitated the growing faculty network. Faculty reported that the prestige of their awards were important in gaining recognition by their colleagues.

Polly Welch and Stanton Jones, who were members of the faculty team in the second UDEP pilot at the University of Oregon, Eugene, have developed a process model for incorporating universal design into design education that builds on the UDEP experiences between 1993 and 2001. Welch and Jones identify a model for curriculum development model, where five elements are considered critical for enabling students to move from general awareness to engagement and integration, and finally, the ability to design inclusively: 1) learning technical/anthropometric information; 2) learning about user needs research; 3) learning from users involved in the design process; 4) developing self-awareness and, 5) engaging the social, political and ethical issues of inclusive design. Each component is necessary to universal design teaching and has more impact when taught in relation to the others.⁶⁸

The process model presented above needs, according to Welch and Jones, to be supported by injection and/or infusion strategies to raise awareness about inclusive design. The injection method they describe as injecting a unit of teaching into a given course syllabus; injecting a course devoted to universal design into the curriculum, or offering a one-time event/workshop. Infusion techniques they propose are infusion of universal design into a subject area course; infusion of universal design problem into a studio problem; infusion of universal design into a single year of the curriculum, or infusion of universal design into the entire design curriculum.⁶⁹

According to Welch and Jones, key elements that the US faculty participated in the UDEP pilots have been able to identify influencing the adoption of universal design include:

Attitudinal change

Universal design teachers have found, in general terms, that attitude among students, faculty, and administrators is a greater barrier to infusion than the time and effort required to introduce and elaborate on the universal design materials.

⁶⁷ Design societies are involved in the accreditation of degrees.

⁶⁸ Welch, P.; Jones, S.: Advances in Universal Design Education in the United States. In Preiser, W.F.E. and Ostroff, E. (Eds.) Universal Design Handbook. New York: McGraw-Hill. 2002.

⁶⁹ Ibid.

Diversity of student body and faculty

Design programmes in the US generally do not reflect the true diversity of the society itself.

Knowledge generation and scholarly development of faculty

Research on universal design is primarily technology- and data-oriented or dissemination-focused. Articles in academic journals and trade magazines are considered a necessary pre-requisite for the dialogue on universal design to grow and mature.

Programme accreditation and licensing exams

The National Architectural Accreditation Board (NAAB), in its most recent requirements from 1998, distinguishes between the levels of accomplishment expected of graduates — awareness, understanding and ability. Students are expected to have ability to design both site and building to accommodate individuals with varying physical abilities. This means that 'they can correctly select the information appropriate to the situation, and apply it to the solution of specific problems'. They are only required to have understanding when it comes to their legal responsibilities with respect to accessibility. These requirements make clear the obligation of architecture schools to ensure that their students can apply the requirements of the ADA.

In the field of landscape architecture, the requirements are considerably less well formulated. The only mention of accessibility is not under an assessment of the curriculum but under educational facilities, where schools are expected to have 'safe, convenient, and barrier-free access'. While knowledge of the ADA Standards for Accessible Design are incorporated into questions on the landscape architecture licensing exam, there is no specific requirement to teach it in the requirements for accreditation of professional programmes.

Physical environments conducive of learning

Many of the environments in which design is taught are rich with examples of noninclusive design. Schools should, according to Welch and Jones, take proactive steps to address the inequities.

The US experience related to universal design curricula development shows a large body of teaching experiments across the country. A vast majority of these experiments, at least the documented ones, relate to architecture, urban design, industrial design, interior design and landscape design. Some of these individual experiments go back decades, at least to the beginning of 1970's, even if a major change can be estimated to have taken place in early 1990's, with the emergence of Universal Design Education Project pilots, conducted in the fields mentioned above.

Universal design experiments in fields related to information technologies have merged later, especially in the context of Electronic and Information

Technology Accessibility Standards (Section 508 of the Rehabilitation Act Amendments - 1998) and development of Web Accessibility Initiative Guidelines. Trace Center at the University of Wisconsin can be considered one of the leaders in the field.

Going back to the article in the Universal Design Handbook on Advances in Universal Design Education, Welsh and Jones identify a number of challenges for development of universal design education. They claim that more effort is needed to cross-fertilise design programmes with some of the success stories already realised, especially for faculties looking for resources at both the course and curriculum scales. Effort should be put in publication of scholarly work in academic journals to emphasize that the concept of universal design is a robust academic and professional topic. Dissemination of information on universal design will also enhance teaching and research within the academy in the future.

However, as Welsh and Jones claim, previous curriculum packages have not fared well, and have attracted few design teachers. The same is said by Elaine Ostroff: the United States is still on the very early stages of the process to bring universal design education into mainstream design education. The challenge is clear — 'strategies and components of a universal design-based curriculum must vary from one place to the next, due to the inevitable variation in people, place, curricular focus, and in overall acceptance of a new idea such as universal design' (Welsh and Jones, 2002).

The challenge stated above is quite likely true, not only in the context of individual universities and their strategies, but also in the context of policy developments in national, and in the case of the USA, federal level, as it is true in the case of Europe and its nations. In IDCnet the challenge now remains to reflect the findings in the US with the knowledge we have gathered from the state-of-the-art in European countries. These findings will be the starting point of the analysis and production of recommendations in the final report on Design for All education and research policies and strategies.

3.11 Canadian Design Policy

'Shaping Canada's Future by Design'⁷⁰ publication aims to establish direction in developing a human resource strategy for the design sector. To create a successful design sector, the document suggests actions in various spheres of activity.

The importance of sustainable/inclusive design is acknowledged as a challenge especially within the business environment: designers must be able to respond to the demand that is created by social and demographic changes by designing for a wider set of users; user centred design is also

⁷⁰ Shaping Canada's Future by Design - Detailed Report, prepared by Price Waterhouse for The Design Sector Steering Committee.

important in demonstrating the value of design when marketing it. Generally designers in Canada have tended to ignore the needs of these end-users and therefore there has been speculation of increased legislation, similar to the American with Disabilities Act.

Indeed, the document identifies gaps in curricula and lack of specific skills and knowledge: for designers of built environment in the field of designing in a business and social context and for industrial designers in ergonomics and socially responsible development. In general, with regard to design education one of the keys to success are felt to be the setting up of graduate schools and applied research to widen the body of knowledge on a traditionally craft based profession: research focus has been lacking in Canada and so far little funding has been available. The document also stresses the significance of research in relation to accessibility and usability.

The value of effective networking between organisation and co-operation between educators and practitioners also comes to the fore - ability to work in a multidisciplinary team is crucial which also assumes certain flexibility from design courses. The document also suggests developing courses in design and creative problem solving already in primary and secondary schools.

Specific policies related to the Canadian design sector are lacking, for example in public procurement. 'Shaping Canada's Future by Design' calls for strong national sector leadership – the most effective way to implement change.

4 Development of recommendations on DfA related higher education and research policies and strategies

4.1 Key issues identified in deliverable D4.1

It is estimated in the IDCnet deliverable D3.1 on identification of key knowledge sets for Design for All education, that in order to progress further with the work on content definition for curricula recommendations, the next part of the work package foresees the establishment of teaching pilots, to be undertaken at various institutions, associated to members of IDCnet. In most cases, these are not seen as whole courses, but as modules inserted into existing courses, or even topics within existing modules. This is partly because of the difficulty of introducing institution-wide, new courses, and partly because the overall understanding is that Design for All is not, and should not be a discipline in its own right, but a horizontal action, that crosses boundaries, and that can most usefully be included within established courses.

The cross-disciplinary nature of Design for All bears consequences also for further development of Design for All education and research strategies and policies. It seems that in the majority of cases until now, Design for All education and research strategies on the national level in Europe have been bottom-up initiatives, rather related to individual higher education institutions, and started by committed educators. The same can to a large degree be said about the US experience. In both contexts, Europe and the USA, exceptions exist and collaborative strategies between groups of universities have emerged as some national strategy efforts.

It is still rare for public sector actors to have Design for All strategies or policies — but it can be estimated that in many cases a step would be possible from using concepts like equality and inclusion, to using Design for All. Design for All can often be implicitly present even if the concept is not directly used. Partly this is due to differences in languages; Design for All translates in a number of forms.

In some countries bottom-up Design for All initiatives in individual universities led by committed educational experts on Design for All have led to a more elaborated Design for All education and research policy statements.

The Norwegian action programme on Universal Design (Handlingsprogram for Universell utforming, 2002) is so far the most extensive policy programme, covering all sector ministries.

Another development worth mentioning here is the policy programme produced in the UK by the Design Council, described in *'Living longer. The next context for design'* and the collaborative efforts between some UK

universities and research and higher education related bodies like Department for Education and Skills (DfES) and Department of Technology and Industry (DTI) to influence research policies on inclusive design.

The Resolution ResAP(2001)⁷¹ of the Council of Europe Committee of Ministers supports the introduction of the principles of universal design into the curricula of all occupations working on the built environment. The resolution was published in February 2001 and has been referred to by above mentioned policy cases in Norway and UK, as well as in many other curricula related developments. Another case of the European policy level developments is the objective identified in the eEurope 2002 action plan on production of recommendations for European Design for All curricula in the context of Information Society.

In conclusion, it seems clear that initiatives related to development of Design for All education and research policies and strategies can kick off through both bottom-up and top-down incentives. Both approaches are necessary and complement each other. Also, networking on both national and European level seems to encourage next steps in DfA education and research strategies. All this should have implications in recommendations related to further development of this workpackage.

4.2 IDCnet Sankt Augustin workshop

IDCnet Sankt Augustin workshop was held 15-16 January 2004 to further discuss three project workpackages: (1) Assessing the needs of industry, (2) Identification of core content of curricula in Design for All, and (3) Research policies and strategies for Design for All. It was attended by all project partners as well as representatives from higher education institutions, research organisations, the European Union and professional European networks. This short summary, mainly concentrating on the discussion on policy recommendations, is based on Jan Graafman's and Tuula Ikonen-Graafman's summary of discussion and recommendations, in their role as invited facilitators and rapporteurs.

First the workpackage on assessing the industry needs was discussed. Two major questions were put forward: how to convince the industry of the viability of DfA and what is the current design practice in industry and its implications for the graduate profile. The attendees commented that demographic data rarely convinces the industry to apply DfA approach, however, legislation does. Also, if it can be shown that DfA brings companies a competitive edge they might be more willing to adopt it. The issue of corporate social responsibility was also brought to the forum: if it works in the environmental context, could it work for DfA?

With regard to the identification of core knowledge sets and skills for model curricula in DfA, the key question addressed the emerging

⁷¹ <http://www.cm.coe.int/ta/res/resAP/2001/2001xp1.htm>

taxonomy: what was still missing? It was felt that the future perspective, emphasising the continuous need to update DfA knowledge, was lacking. It was also noted that soft skills are most in demand, perhaps lessening the need for sector specificity. Then again, the taxonomy was felt to be very general and that DfA-specific items should be added to it. Finally, the attendees agreed that acceptance of the taxonomy in higher education institution was largely dependant on motivated teachers with decisive power.

Various strategic questions were put to the attendees when discussion on workpackage 4, DfA related Education and Research Policies and Strategies, began. They were asked to identify who are the most relevant stakeholders developing these policies in EU. Also, whether the institutions they (the attendees) represented committed to a DfA approach and how this commitment was expressed. Other question was to identify the major actions through which institutions could be encouraged to commit to DfA education; on the other hand, obstacles that would prevent HEI from developing DfA strategies were put under scrutiny. Underlining question was how to support DfA strategy and policy development: bottom-up or top-down.

It was noted that DfA is essential across disciplines which means that stakeholders are everywhere. Another comment pointed out that with regard to the development of new fields of education interaction with professional organisations, industry and policy makers should be increased. At the moment this development is an internal and autonomous process in higher education institutions. Issues triggering changes in HE institutions were also considered and the following were suggested: students, committed staff, competitions for students, media-coverage and perhaps Corporate Social Responsibility in HE institutions. It was also pointed out that Design for All is not based on research enough: this prevents acceptance and recognition of the field, but also accreditation, which could be an efficient way of introducing the approach to the curricula.

A comment was also made on how the role of funding agencies and the MEDIA- program has been underestimated. Developing a Design for All label for cities or regions could also be beneficial - reference at this point was made to the 'Healthy Cities' approach. Final comments brought up public procurement: if purchases in the public sector would have to fulfil DfA criteria, then the decision makers in this sector could influence industry and education. However, it was pointed out that in this case both social engineers and technical therapists would need to possess DfA skills and knowledge.

As food for thought, in the end of the workshop, following themes were raised in relation to the whole project. How to position DfA: is there a good definition for Design for All that helps to understand how DfA relates to design in general, to technical product development, to ergonomics and human factors, etc. Another issue was: is there a distinction between DfA

in different technology sectors? If this is not the case, is it possible to develop generic knowledge in DfA through more basic research?

In conclusion, it was noted that from HE sector's viewpoint a new approach or field of activity, like DfA, will only emerge on the basis of a substantial research body in the field and of the visibility of professional activities and experience. This is relevant to both professional education in polytechnics and academic education in universities.

4.3 Questionnaire on DfA education and research strategies and policies

To support the production of recommendations for further development of Design for All education and research strategies and policies, the outcomes of the first report D4.1 and the results of the second IDCnet workshop organised in Sankt Augustin on 15-16 January 2004, have been analysed, together with the results from the questionnaire sent out to experts on DfA education primarily at the higher education level, but also at the level of relevant ministries in EU member countries and at the European level. The results of the questionnaire are in the report in hand considered to be the primary source to support the production of recommendations.

The questionnaire was developed to find out information on DfA strategies based on the questions⁷² identified below. The questions were developed based on the results from the analysis related to the report D4.1 and after consulting IDCnet project partners, EDeAN network members and members of the European Institute for Design and Disability:

- Does the understanding of the concept of Design for All vary extensively between the relevant actors identified;
- What are considered to be the major obstacles preventing the development of Design for All strategies and policies;
- What are considered to be the most effective means to support DfA on one hand, bottom up and on the other hand, top down;
- How could higher education institutions be encouraged to commit to DfA education;
- What is the vision of the respondent for Design for All curricula in Europe, and finally,

An open question related to possible further comments and ideas.

The aim was to keep the questionnaire short and pragmatic. The questionnaire was sent out to the following target groups through email:

⁷² The complete questionnaire and cover letter can be found in Appendix A to this report.

- Participants of the two IDCnet workshops, the first one organised in Helsinki, Finland, in February 2003 and the second one in St. Augustin, Germany, in February 2004;
- European Design for All e-Accessibility Network members and members of the European Institute for Design and Disability;
- Experts identified during the production of the report D4.1;
- Other DfA experts identified with the support of IDCnet partners.

The total number of recipients for the questionnaire reached 130. The invitation to response was repeated once. The filled-in questionnaire was asked to be sent back also by email. 11 questionnaires were returned, 8% percent.

5 responses (of the total 11) were filled in by DfA experts in higher education institutions, 3 by experts in research & development institutions, and 2 by experts within industry. None of the respondents represented either national level experts, e.g., in ministries or in the EU level. The low response rate is partly related to the method — email questionnaires are clearly not the most effective way to encourage answering. Another reason is possibly that the topic Design for All does not have a high priority in the minds of respondents or their respective institutions, and a third reason might be that the questionnaire was found difficult to answer.

Hence, the analysis of response to the questionnaire can only show indicative results. To reach a more reliable result, the questionnaire should have consistently been followed up with interviews, but this was not possible with the limited resources in the project. On the other hand, documentation from the Design for All in Education Conference and from the Universal Design Education Project Sweden on May 7 and 8, 2004 in Stockholm, Sweden, complements the analysis based on the results from the questionnaire.⁷³ These two events are discussed in the chapter **Error! Reference source not found..**

4.3.1 Analysis of the questionnaire

The first part of the analysis of the questionnaire is a synthesis of the response to each question, and the second part of the analysis is a more detailed presentation on the information, with more specific data on priorities set by the respondents to options proposed to them in the respective questions (matrix of responses, Appendix B).

Q1. How would you define the term Design for All and its usage?

⁷³ The Design for All in Education Conference was organised by the Nordic Council on Disability Policy in co-operation with EIDD Sverige, together with another conference, Design for All in Public Transport, on 7 May 2004 in Stockholm, Sweden. For more information on the programmes, see <http://www.nsh.se>

In the beginning of the questionnaire, a definition of Design for All was given: 'the design of products, services and environments to be usable by all people, to the greatest extent possible, without the need for adaptation or specialised design.' The first question was considered of relevance by the workpackage leaders, since Design for All as a concept is still defined in a number of manners, and the interpretation of the concept has an affect on how DfA strategies can be developed.

The majority of the definitions given by the respondents are in line with the definition stated in the questionnaire. It is important to notice though, that while some respondents refer to 'the widest possible range of users', others refer to 'all citizens', 'everybody (including future generations)'. The latter interpretation is given support by an approach, where 'Design for All is a philosophy to approach design. It encourages designers and practitioners to consider all user groups when designing their product/service'.

Yet another definition of Design for All considers it to be 'the ongoing consideration, during the whole period of development, to not unintentionally exclude specific potential users, and to improve the ease and comfort of use of that which is defined for a well-defined user group'. Also, one respondent relates the Design for All concept specifically to EU organisations and especially in the IT related fields, and claims that DfA has little resonance internationally beyond the EU. This respondent states that DfA is limited geographically and lacks commercial relevance.

Finally, the definitions also touch the relationship between Design for All and assistive technologies or specific solutions designed for disabled users: "Some solutions can be usable for everybody, others must be made specific for persons with disabilities. Thus DfA has also responsibility for making solutions for individuals available. Extrapolation from the 'normal' consumer group may make the group with more difficult impairments smaller and these smaller groups must not be forgotten!"

It can be clearly seen that the definitions of Design for All vary from definitions of Design for All as a philosophical, value based term to definitions of Design for All as a policy concept or a more pragmatic, product development or professional practice related term. Clearly, the way DfA is defined will have an affect on the understanding how Design for All related activities or measures can be supported in the society. As a conclusion, more emphasis should be put in clarifying the definition of Design for All and related concepts, and especially the contextual settings of the use of the concepts.

Q2. To your knowledge, is your institution committed to a Design for All approach? Can you identify, since when? Is the commitment explicitly expressed in the mission statement, strategy documents or in action plans?

All the respondents (11) recognised that their institution was committed to the DfA approach. The institutions represented have been committed to

the Design for All approach either very recently (2004, 1 respondent), since a few years (2000, 2001, both 1 respondent), a few of them since mid-1990's, and as some of the respondents specified, already from 1980's, the earliest identified as 1980. When the commitment was dated back to 1980's, it was also stated, that at the time, the commitment would not have carried a title Design for All, but an approach carrying similar principles.

All respondents claim that their institution shows the commitment in the mission statement, strategy documents or action plans, but not all respondents specify the documents. The commitment to Design for All approach is expressed in the institution's documents in a variety of means according to the respondents, but almost none of them explicitly refer to Design for All concept. Most of the references made to DfA commitment in the mission statement, strategy documents or action plans relate to concepts like accessibility, 'needs of all users', or 'open for everyone'.

Q3. What are, in your experience, the major obstacles preventing the development of DfA strategies in higher education institutions?

The respondents were asked to identify three major obstacles and mark them in order of importance, 1 being the most important. The options offered were: lack of awareness or knowledge about DfA; DfA not considered important; lack of interaction with other stakeholders, e.g., industry or professional organisations; lack of reference to good practice; lack of research on DfA related issues; lack of legislation on inclusion or DfA, and Other (please Specify).

Lack of legislation on inclusion or DfA was identified by the respondents as the major obstacle (four times mark 1, once mark 2 and once mark 3), but lack of research received almost as high marks (three times mark 1, once mark 2 and once mark 3). Lack of awareness of DfA was also considered an important obstacle, third in ranking (twice mark 1, four times mark 2 and twice mark 3).

DfA not considered important, lack of interaction with other stakeholders and lack of references to good practice were also selected, but received less marks than the three options ranking highest. Additional comments produced by the respondents referred to the fact that most faculties can do without design or accessibility focus, since it is a challenge to change a system. Also, it was reminded by the respondents that curricula are already large, and institutions would have difficulties fitting DfA approach into existing tight schedules. Terminology was also referred to as a major obstacle: education should have relevance in the real world, and future generations of designers should be educated using language that companies understand and subscribe to. A clear definition of DfA and clear, specific and enforceable legislation on DfA was called for.⁷⁴

⁷⁴ For details in marks given, please see Appendix B.

As a conclusion, the response to this question seems to indicate that lack of legislation on DfA is considered a major obstacle in the development of DfA strategies. Besides this top-down approach, lack of DfA related research ranked almost as high as lack of legislation. Research on DfA would call both top-down and bottom-up measures, and this will be further considered when recommendations to further development are discussed in chapter 0.

Q4. What do you consider the most effective means to support DfA strategy and policy development bottom-up? (Please choose three and mark them in the order of importance, 1 being the most important.)

The options offered to the respondents were: individual champions (e.g., committed staff members on department/faculty level); benchmarking DfA education, knowledge of good practice; research on DfA, efficient knowledge transfer of research results; networking between DfA educators and students; integration of DfA approach in the department/faculty/university strategies; pressure from professional organisations; pressure from industry, and other (please specify).

Research on DfA and knowledge transfer received the highest marks (4 times mark 1, two times mark 3). Integration of DfA into strategies was considered the second most effective means to support DfA bottom up (twice mark 1, four times mark 2 and once mark 3). Benchmarking DfA education (twice mark 1, three times mark 2) and individual champions (twice mark 1, twice mark 2 and three times mark 3) were seen almost as effective means.

Networking, pressure from industry and pressure from professional organisations received only one or two marks by the respondents and none ranked them the highest.

In the comments section, the respondents emphasised the need to make DfA a sexy topic. If DfA is not exciting for students, they will not subscribe to it and it will remain a marginal activity. Some respondents suggested that the effectiveness of DfA should be demonstrated through showing the innovativeness in products and services and in terms of commercial advantage (sexy to companies). Economical pressure and pricing, in the form of bad/good publicity, terms of funding or growing demand for DfA competence as well as DfA products were mentioned by a number of respondents in their comments. Also the need to give recognition to students and staff, through awards, scholarships etc were mentioned, again as a reference to develop a sexy image for DfA.

Q5. What do you consider the most effective means to support DfA strategy and policy development top-down?

As in earlier questions, the respondents were asked to identify three options, and to mark them in the order of importance, 1 ranking the most important.

Options defined were: EU level recommendations on DfA related curricula; EU funded research on DfA topics; recommendations on DfA curricula in the national level; quality assurance, DfA included in the quality criteria for higher education institutions; research on DfA topics, and other (please specify).

EU funded research on DfA topics was considered by the respondents the most effective means to support DfA top down (three times mark 1, twice mark 3). Quality assurance, support to the idea that DfA could be included in the quality criteria for higher education institutions, was also ranked high (twice mark 2, four times mark 2); as well as support from relevant ministries to research on DfA topics (twice mark 2, once mark 2).

EU level recommendations on curricula received a high number of marks, but none of the respondents marked it with 1, the highest. On the other hand, it received three times mark 2 and four times mark 3. Recommendations by ministries on curricula received twice mark 3.

Majority of the comments by respondents to this question related to the role of industry — especially creating the climate in which industry would compete to deliver DfA. All the rest is waste of time and money, said one of the respondents. Also, a reference was made to the fact that even if businesses would recognise the DfA topic, many of them would not know what to do with it.

Q6. From your perspective, how could higher education institutions be encouraged to commit to the development of Design for All education (courses, modules, etc)?

The respondents were given a starting point to answer this question with the following themes for consideration: the role of professional organisations; the role of industry; policies from 1) the ministries, 2) the EU; the role of EU level recommendations, and other.

The role of industry was considered of importance by the respondents to this question: higher education institutions are felt to be responsive to the demands of industry, and industry is responsive to legislation. To reach this, improved dialogues was proposed by respondents between EU research and industry. Also, respondents proposed that universities should integrate Design for All as an ethical approach for the future professionals, following EU and national policies. Respondents reflected on funding, and proposed real resources be put behind DfA initiatives. EU and national level policies were considered useful by some respondents, if in tenders proposers would have to consider DfA approach as a quality aspect. On the other hand, EU level recommendations were considered almost useless, if not accompanied with stronger measures.

Q7. What is your vision for Design for All curricula in Europe (e.g., in 5 years time)? What would you like to see happening?

As could be imagined, respondents took up diverse approaches and issues: efficient knowledge transfer measures from research to education

and industry; a requirement that Design for All approach be included in all levels of education, not only higher education, but also vocational training, and integration of DfA into all design, business, architecture and software courses in response to clear and practical guidelines and legislation. The role of legislation was taken up also in relation to this question: legislation was seen as an effective measure towards industry, as was the case in the context of question 3 (related to major obstacles preventing the development of DfA strategies). Many of the respondents also related to the holistic, cross-disciplinary approach as a requirement to successfully develop DfA strategies.

Q8. Other comments and/or suggestions?

One of the respondents related to the development in Spain: the recent agreement between several faculties of a number of universities and the Spanish branch of EIDD, The Design for All Association, to propose to the Ministry of Education the inclusion of Design for All as one of the main themes to develop masters degree studies, etc. in architecture, engineering, design, management, etc. The proposal will be run by the Council of Rectors of Spanish Universities.

Another respondent referred to an aim, that DfA be normalised as an essential part of good design and a good design education. That would mean mainstreaming the idea, with an understanding of the facts. The same respondent referred to the unfortunate fact, that when people are asked what DfA means, they still interpret it as design for disability, and with too little recognition of the relationship of age to disabilities. Without careful definition, DfA will not become a valid term, but will remain only a political aspiration and hence suspect. Design for All, same as Universal Design, is not achievable, claims one respondent, and they can hence be called aspirational terms. Even if EU devotes funding to it, and makes it a goal, it does still not become realisable. Inclusive design, on the other hand, can be promoted as a progressive, evolving approach to design that works in the real world of compromises, market forces, human error and imperfect technology. Inclusive design is about doing the best we can, not about impossible aspirations wrapped up in politically correct language, criticises the respondent.

Some of the respondents also gave feedback to the questionnaire itself, finding it difficult to answer. It was also stated, that the questions do not give real response to the question what is the state-of-the-art of Design for All in any organisation, since the questionnaire did not touch all relevant issues, e.g., projects with partners, registrar's office and other staff or access to ICT related services.

4.4 Complementary information to support the questionnaire - case Sweden

The recent EIDD Stockholm Declaration⁷⁵ states that the roots for the history of Design for All in Scandinavia go back to the functionalist tradition and its interpretation in Scandinavian design decades back. Design for All approach also had a fruitful soil to grow especially in the welfare state model developed in 1960's in Sweden, a society based on the inclusive approach and with the aim to develop 'A Society for All'. One of the early signs that the public sector in Sweden took the inclusion strategy seriously also in the context of design, was the public funding allocated to the development of products for disabled users already in 1960's.⁷⁶

In 2004, Sweden has a design policy programme with a strong focus on the next year, named the Design Year 2005. According to the government decision, local authorities, organisations, universities and business community are all encouraged to actively participate in the Design Year. In the same government decision, it is recognised, that the Design Year 2005 is a logical step in a long term development chain: active government policy to support and develop architecture and design dates back to mid-1990's, and in 1998 the Swedish government launched a proposal for an action programme on architecture and design: *Framtidformer — Handlingprogram för arkitektur, formgivning och design.*⁷⁷ Based on the proposal, the Swedish parliament decided that special emphasis be put to: not to compromise quality based on short-term economical reasons; that the interest in high quality in architecture, design and public environment shall be strengthened; and that Swedish architecture and design shall be developed in fruitful collaboration with international actors.

For the Design Year 2005, the Swedish government decided on seven focus areas: work life and design; design as a cultural expression; design as a growth factor (competitive edge); public procurement; Design for All; long term sustainable design, and education and research. In this context, Design for All is defined as an approach through which 'products (in Swedish produkter), products related to everyday life (in Swedish bruksföremål), buildings, information technology products, interiors and urban environment, as well as services, independently from user's gender, age or disabilities, should be accessible and usable for all, as much as this is possible.' The document also emphasises that Design for All aims at

⁷⁵ The EIDD Stockholm Declaration was approved by the EIDD Board Meeting on 9 May 2004 in Stockholm.

⁷⁶ Evident e.g. in the development projects delivered by the design consultancy Ergonomigruppen, still active in the field at present.

⁷⁷ Proposal 1997/98:117, Decision 1997/98:KrU14

improved, high quality solutions for all users and that this should lead to a decreased need for special solutions.⁷⁸

Design for All is defined by the Swedish government as one of the seven focus areas, but Design for All related strategies are part of many other focus areas too, e.g. equality and accessibility are also mentioned in the context of work life and design; involvement of users and citizens and human rights are mentioned in the context of design as a cultural expression; and in the focus area long term sustainable design, the social dimension of design is taken up. The activities related to the Design Year 2005 in Sweden can be followed up through the Web site <http://www.merdesign.se>.

The Swedish branch of EIDD, EIDD Sverige, initiated a three-year Design for All education project in 2001: The Universal Design Education Project Sweden (UDEPS). The primary inspiration for the project was derived from the Universal Design Education projects in the United States. The UDEPS project will finish in May 2004, and the results will be reported later this year by the leader of the project, Professor Jan Paulsson at the Chalmers University of Technology in Gothenburg. However, the project organised a workshop in Stockholm on 8 May, and the following is based on this workshop.⁷⁹

The Swedish UDEPS project has received funding from the Ministry of Social Affairs. Ten design schools or universities have participated in the project: Design schools in Ultuna and Alnarp; HDK, The Design Department within the University of Gothenburg; Konstfack in Stockholm; Chalmers University of Technology in Gothenburg; Chalmers, Department of Architecture; The University of Technology in Stockholm (Kungliga Tekniska Högskolan); Umeå University of Design; and the University of Technology in Lund, Departments of Design and Architecture.⁸⁰

In relation to Design for All education and research strategies and policies, the presentations in the Stockholm workshops on Design for All in Education on 8 May 2004 and the UDEPS workshop of May 2004 brought up the following issues:

- Konstfack, The Design University in Stockholm, has recently made a survey on the motivations of students applying to the university. 30% of those students, who participate in the entrance exam, mention Design for All as one of the primary motives to apply.⁸¹ As Birgitta Östling, the teacher of Design for All approach in Konstfack on the BA level, says, one of the consequences of the result has been, that there

⁷⁸ The decision of the Swedish government, Regeringsbeslut 2004-03-18, Ku2004/793/Kr, and its appendixes (bilagor)

⁷⁹ Information on The Universal Design Education Project Sweden UDEPS can be found at <http://www.universaldesign-sweden.com/>

⁸⁰ An elaborate introduction to projects produced in these universities can be found in the UDEPS website <http://www.universaldesign-sweden.com/>

⁸¹ The result was presented in the Stockholm UDEPS workshop on 8 May 2004 by Birgitta Östling from Konstfack. No primary source was available for this report.

is now an interest to integrate DfA approach also to the MA level education. She also critically reminds that the result of the survey does not reveal whether the DfA motive with applicants is real or whether the students believe that using this motive will come to their benefit. In either case, it shows that students are sensitive to the social aspect of design and that they follow discussions and changes in the society.

- Training the trainers, further educating staff in universities on Design for All approach was brought up by a number of presenters in both workshops. It was recognised by many, that Design for All advocates are still few in the universities, and that it is difficult to awake the interest of colleagues.
- Integration of Design for All into existing courses instead of teaching DfA as a separate approach was mentioned as an objective by a number of speakers. In Chalmers University of Technology, Department of Architecture, DfA is taught in the three-level model used in Chalmers in general. Introduction to DfA takes place in the first study year (first level); then DfA is integrated in the applied studies during the first three years (second level), and finally, in the third level, students have a possibility to study DfA in the final phase of their studies. Chalmers has also considered using accessibility consultants as experts in the final critique of architecture students on an annual basis, but so far this has not been realised.
- The Design Department HDK in the Gothenburg University has a cross-disciplinary approach to Design for All in their MA programmes. Also, HDK emphasises that the contextual framework for Design for All is sustainable development, understood as economically, ecologically and socially sustainable development. This has been a conscious decision made by the university, also related to the Swedish objective to reach full accessibility by 2010.
- A number of diploma work have been produced as a result of the UDEPS project, and some speakers also mentioned other spin-offs, students who after their diploma works in DfA have continued to work on their PhDs in the same field.
- Elaine Ostroff, the founding president of Adaptive Environments in Boston, the United States, discussed in her presentation in the May 7 Design for All in Education Conference the strategy to introduce universal design in the architecture education in the United States. This bears a relevance to the document in hand, since her recognition that architects are indeed a challenging group of professionals in relation to implementation of DfA approach has been shared by many other DfA experts. The strategy implemented by the Universal Design advocates in the U.S. was to approach the Association of the American Architects AIA and their Diversity Committee on both national and local level and to introduce the universal design approach both in the conferences and the Web site of the organisation. The first time Universal Design was

raised on the AIA conference agenda was the year 2003, and it will again be on the agenda on 2004. Other strategies include the introduction of the Architecture for Social Injustice Program and partnerships in teaching. Elaine Ostroff reminds that it is important to reach out and engage socially conscious faculties and to create incentives for younger faculty members. Equally important is to tackle real world problems in education, hence stretching the existing agenda.

5 Recommendations to further develop DfA education and research strategies

The following recommendations are based on the results from the desk survey on the state-of-the-art of Design for All related education and research strategies and policies, the experiences from the situation in the U.S., and the learnings from the questionnaire sent out to Design for All experts primary in higher education, but also in the relevant ministries in European Union member countries and experts in the EU level.

The recommendations are primarily targeted to higher education institution level. The primary reason for this is that most of the respondents to the questionnaire came from this level.

5.1 Recommendation 1: Be sensitive to diversity in cultures

Design for All related strategies and policies, independent of the level their effect is targeted to, must be sensitive to the inevitable variation in people, place, curricular focus, culture of higher education institutions, and to the strategy and policy cultures in various European Union member countries.

5.1.1 Rationale

The development of recommendations for DfA education and research policies and strategies in Europe has been based on the recognition of the challenge already identified in the USA — that strategies must be sensitive to the inevitable variation in people, place, curricular focus, and in strategy and policy cultures in various EU countries. The same issue was also discussed in the IDCnet workshops, both in Helsinki in February 2003 and in Sankt Augustin a year later. Independently of these two workshops, the same challenge was again taken up in the Design for All in Education conference in Stockholm on 8 May 2004, jointly organised by the Nordic Council on Disability and EIDD Sverige, the Swedish branch of EIDD. The same message has been repeated over and over again during the IDCnet timeline, especially by the educational professionals in the higher education sector. This is why the first recommendation touches this very issue.

5.2 Recommendation 2: Develop Design for All related legislation

The role of Design for All related legislation as an incentive to develop Design for All education is recognised by the IDCnet project. This concerns both Design for All related legislation to improve equal access to products and services and legislation on inclusion related to equal access to

education. The role of industry is of critical importance in the first approach, as much as the role of higher education institutions and governments in the second.

5.2.1 Rationale

The role of legislation as a primary incentive also to develop Design for All related education and research strategies has been taken up by a large number of experts involved in the IDCnet project. Many of the experts have referred to the role of legislation in the context of industry: legislation regulating the Design for All qualities in products or services is considered to create pressure to industry, and this pressure is expected to channel itself also towards education. The same reference has been made in the reports related to the identification of the needs of industry in the IDCnet project.

On the other hand, the role of legislation can be considered of importance also in the context of inclusion. Legislation on inclusion to support equal access to education could become an incentive to develop Design for All related education, and especially encourage staff in educational institutions to train themselves in DfA.

5.3 Recommendation 3: Encourage knowledge transfer between industry and education

Industry and educational institutions should interact on a regular basis to identify and update industry needs in relation to Design for All education and research. The interaction is also needed to improve knowledge transfer related to accumulation of Design for All knowledge in educational institutions, either through education or research. Existing European Design for All networks, such as EDeAN and AAATE, provide platforms for this interaction and especially knowledge transfer, which should be further supported. The role of professional networks (e.g., BEDA and national designer networks) and university networks (e.g., Cesaer and Cumulus) should also be strengthened.

5.3.1 Rationale

The role of industry in the context of developing Design for All education and research strategies and policies has been well recognised by the DfA experts throughout the IDCnet project. The reports related to the identification of industry needs on Design for All education show on the other hand that a lot remains to be done. The awareness of industry on Design for All needs to be deepened, and on the other hand, more and relevant tools to implement Design for All by industry need to be developed.

5.4 Recommendation 4: Support individual champions

The role of individual champions to develop Design for All education in higher education institutions has been recognised as essential. These early advocates of Design for All education should be recognised and supported. Support the champions through allocation of funding — use success in Design for All approach as a quality criteria.

5.4.1 Rationale

Individual champions have been recognised by the IDCnet project to play a crucial role in the development of Design for All education and research in higher education institutions. The experience on this has been very much the same both in Europe and in the United States. The role of Design for All advocates should be strategically supported and recognised.

5.5 Recommendation 5: Train the trainers

Train the trainers. Higher education institutions are encouraged to deepen the Design for All knowledge base of their whole staff, not only teachers. A solid Design for All knowledge would support institutions also in the implementation of inclusive strategies related to equal access to educational institutions.

5.5.1 Rationale

Many DfA experts and individual champions have recognised in the higher education institutions context that it is difficult to awake the interest of other teachers in Design for All. To improve the situation, further training of staff on DfA is necessary. This is important also, because Design for All is essentially a cross-disciplinary activity, and integrating Design for All contents in existing courses is considered one of the more effective ways to develop DfA education.

5.6 Recommendation 6: Strengthen Design for All research

Research on Design for All should be developed to strengthen the Design for All related knowledge base. Higher education institutions, national and European research development bodies are encouraged to give Design for All related research a high priority in their agenda. They are also encouraged to ensure that knowledge transfer of research results is organised to support effective implementation of DfA knowledge and to encourage continuous interaction of research actors with other actors in society.

5.6.1 Rationale

Design for All research was identified by the DfA experts in the IDCnet project as one of the most effective means to support development of Design for All strategies both from bottom-up and top-down. Research is essential in strengthening the Design for All related knowledge base and thus providing material for Design for All education. It has also a direct impact on the status of the field. Efficient knowledge transfer from universities and research institutions to industry, professionals and social actors is the other important issue here, to ensure that relevant actors have easy access to knowledge produced.

5.7 Recommendation 7: Use a cross-disciplinary approach

Higher education institutions are encouraged to recognise the cross-disciplinary nature of Design for All and to develop Design for All education through integrating the approach to existing curricula, courses and modules in relevant academic fields. Courses with a specific focus on developing Design for All is reasonable when the knowledge and research base needs be further deepened.

5.7.1 Rationale

It has been recognised by the Design for All experts in the higher education institutions involved in the IDCnet project that one of the best ways to develop Design for All education is to integrate DfA in existing courses and curricula, not solely through developing separate DfA education. This is also related to the fact that Design for All is essentially a cross-disciplinary activity.

5.8 Recommendation 8: Make Design for All visible

Efficient knowledge transfer, making good Design for All practice visible and sharing experience on developments of Design for All education are all identified as effective strategies to develop Design for All education and research. Higher education institutions are encouraged to document their Design for All related developments both to share the experiences with other actors and to have support to the long-term strategy development on DfA related education. Dissemination of these documents should be supported by the DfA related networks, e.g., the EDeAN Curriculum Special Interest Group.

5.8.1 Rationale

When asked how higher education institutions could be encouraged to commit to Design for All education, DfA experts came up with a large variety of approaches. Many of the approaches were related to making

Design for All interesting to relevant actors, including industry and professionals and professional organisations. Demonstrations of the effectiveness of DfA approach were also taken up when most effective means to support Design for All bottom-up was discussed.

5.9 Recommendation 9: Include Design for All in the quality criteria

It is proposed that bodies developing quality criteria and quality assessment for higher education institutions would consider implementation of Design for All approach as part of inclusive strategies in educational institutions as a relevant quality criteria.

5.9.1 Rationale

Design for All education is linked to the inclusive strategies of higher education institutions. Design for All approach needs to be discussed as a holistic concept in the higher education: it is related to the content of education, but it is also part of access to the built environment, access to communication and equal access to education in higher education institutions. This link would be essentially stronger if Design for All approach as part of inclusive strategies of universities and other higher education institutions would be recognised as a quality criteria for higher education. A consequence of this would be that DfA would also become linked to public funding for universities. Design for All as a quality criteria affecting funding would be a stronger incentive for universities to develop Design for All strategies for education and research.

5.10 Recommendation 10: Support interaction of top down and bottom up approaches

All actors in Design for All education and research strategy and policy development are encouraged to support developments both top down and bottom up. This essentially requires efficient networking and efficient knowledge transfer.

5.10.1 Rationale

Many Design for All actors participating in the development of DfA related education and research strategies and policies in the IDCnet project agree that interaction between top down and bottom up approaches is essential. This understanding seems to have evidence base in some of the more advanced European Union member countries in relation to DfA education or research strategies, especially Sweden, Norway, Greece and Great Britain, where numerous actions have been taken to develop DfA strategies in legislation, in ministerial level policies and in concrete

educational projects in higher education institutions. The development of curricula and educational projects has often been lead by early Design for All advocates, individual champions. These advocates have often also been essential to the development of ministerial level activities.

As an example, in Greece a Task Force on “Universal Access and Usability in the Information Society by all citizens, including people with disabilities and other disadvantaged groups”, has been established in April 2002 in the context of the 3rd Community Support Programme,⁸² Secretariat for the Information Society, Hellenic Ministry of Economy and Finance. The Task Force has an advisory role to the Secretariat for the Information Society on issues related to Universal Access and usability of Information Society Technologies in all planning and implementation phases of the Operational Programme “Information Society”. Additionally, it is in charge of formulating proposals for actions promoting eInclusion in the context of the implementation of the eEurope Action Plan at a national level, according to the principles of Design for All, as well as proposals for legislative, policy and awareness-raising actions. Additionally, the National Greek Network on Design for All (GR-DeAN⁸³), has started its activities as a member of the European Network on Design for All (EDeAN) since 2003. The GR-DeAN Network aims to promote the wide application of the “Universal Access and Usability” and Design for All principles in Greece, and to support activities towards equal participation of people with disability to the Information Society in Greece. Finally, a study entitled “Universal Access and Equal Participation of people with disabilities in the Information Society”, has been very recently conducted by the University of Crete, targeted towards: (a) a in-depth investigation of the current situation concerning technological, market, legislative, regulatory and policy issues affecting access of people with disabilities and other disadvantaged groups in the Information Society; and (b) the proposal of a holistic measures and specific practices in Greece.

⁸² <http://en.infosoc.gr/>

⁸³ <http://www.e-accessibility.gr/>

6 Dissemination

If recommendations produced in this IDCnet document are to be put efficiently in practice, it will require dissemination of the recommendations to all relevant actor groups. This should not take place in isolation, but provided within the context of other results from the IDCnet project, including identification of industry needs (workpackage 2) and development of Design for All taxonomy and DfA teaching pilots (workpackage 3). Another requirement for efficient implementation of recommendations is interaction with relevant actors in the field, from higher education institutions to professional organisations and networks to national and EU policy levels.

European Design for All e-Accessibility Network (EDeAN) with its approximately 140 member organisations representing higher education institutions, research institutions, user organisations and in some countries, also ministries or other public sector actors, provides a useful platform also for dissemination of IDCnet results, including recommendations produced in the document in hand. Reaching beyond the active members in the EDeAN network will remain a challenge for dissemination in the long run though, to ensure that results from the IDCnet project reach all relevant actors in different levels of strategy and policy planning, and also to ensure that implementation of recommendations is sensitive to the cultural diversity of higher education institutions, and national educational and policy approaches.

The activities proposed by the D4ALLnet Curriculum SIG to disseminate IDCnet results are the following: to work closely with other initiatives in the field; to provide a meeting forum; to further identify sets of knowledge skills; to integrate needs of industry and education; to support lively and fruitful exchange of experience and discussion on curricula; to provide DfA education material and to spread DfA education.

D4ALLnet actively supports the operation and the networking activities of EDeAN, and provides HERMES,⁸⁴ the accessible virtual networking platform and communication tool for the network. HERMES provides the necessary infrastructure to enable systematic cooperation amongst EDeAN members. The exchange and interaction in the EDeAN network is largely organised by topics in special interest groups (SIGs). Five EDeAN SIGS are active on HERMES since mid 2003:

- Policy and legislation - moderated by Jan Ekberg (Finland)
- Standardisation - moderated by Jan Engelen (Belgium)
- Curricula on DfA - moderated by Yngve Sundblad (Sweden)
- Benchmarking - moderated by Christian Bühler (Germany)

⁸⁴ <http://www.edean.org/>

- Proactive Assessment - moderated by Pier-Luigi Emiliani (Italy)

HERMES provides, for each SIG, a message board, a document area, extensive search facilities and an on-line chat room. HERMES also integrates the ARIADNE Resource Centre on Design for All (<http://www.edean.org/dfarc.asp>), a dedicated knowledge base facilitating sharing and consolidation of DfA knowledge amongst members of the on-line community. HERMES and ARIADNE therefore constitute an ideal channel for disseminating the results of IDCnet within the EDeAN community and stimulating discussion on the related issues. Such a process has already started through the SIG on DfA curricula.

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8 Appendix A: Questionnaire

I am writing to you in regard to the Inclusive Design Curriculum Network, which is one of the EU Funded IST Projects. One of the main goals of the project is to produce recommendations to further develop Design for All (DfA) education and research policies and strategies: we value your expertise and wish that you would be able to assist us in completing this task by filling out the attached questionnaire.

We hope to produce recommendations that are as balanced, realistic and effective as possible. The DfA education and research policies and strategies recommendations will support the European Commission in establishing recommendations for the European DfA curriculum for designers and engineers, a task specifically defined as part of the eEurope 2002 action programme.

Again, let me thank you beforehand for your time: your help and knowledge in this matter is greatly appreciated. The final report is public and recommendations can be used by anyone involved in the development of higher education and research policies and strategies. I will also make sure that you will receive a copy of the final report.

Feel free to pass on this email and questionnaire!

For any questions or comments, please do not hesitate to contact Mira Koivusilta (mira.koivusilta@stakes.fi).

With best wishes,

Päivi Tahkokallio

Mira Koivusilta

IDCnet WP4: DfA Education and Research Strategies and Policies

8.1 QUESTIONNAIRE

Design for All: *the design of products, services and environments to be usable by all people, to the greatest extent possible, without the need for adaptation or specialised design.*

Other related terms: inclusive design, universal design, accessibility, inclusion, socially sustainable development

The primary objective of the questionnaire is to support the development of recommendations for Design for All education and research policies and strategies in Europe especially for Information and Communication Technology related fields in higher level education.

Background information:

- **Name**
- **Position**
- **institution/ organisation**
- **level (i.e. national, European, higher education)**
- **contact information**

1. How would you define the term 'Design for All' and its usage?
2. To your knowledge, is your institution committed to Design for All approach (**also concepts inclusive design, universal design, inclusion, accessibility can have been used**)? (**Yes, no**)

Can you identify since when? (**Year**)

Is the commitment explicitly expressed in the mission statement, strategy documents or in action plans? (**Yes, no**) If yes, please identify the relevant documents.

3. What are, in your experience, the major obstacles preventing the development of DfA strategies for higher education institutions? (**Please choose three (3) and mark them in the order of importance, 1 being the most important**)
 - **Lack of awareness of or knowledge of DfA (as a concept and as a term)**
 - **DfA not considered important**
 - **Lack of interaction with other stakeholders, e.g. industry or professional organisations**
 - **Lack of references to good practice**
 - **Lack of research on DfA related issues**
 - **Lack of legislation on inclusion or DfA**
 - **Other (please specify)**
4. What do you consider the most effective means to support DfA strategy and policy development bottom-up (**Please choose three (3) and mark them in the order of importance, 1 being the most important**)
 - **Individual champions (e.g. committed staff members on dept/faculty level)**
 - **Benchmarking DfA education, knowledge of good practice**

- **Research on DfA, efficient knowledge transfer of research results**
 - **Networking between DfA educators and students**
 - **Integration of DfA approach in the dept/faculty/university strategies**
 - **Pressure from professional organisations**
 - **Pressure from industry**
 - **Other (please specify)**
5. What do you consider the most effective means to support DfA strategy and policy development top-down **(Please choose three (3) and mark them in the order of importance, 1 being the most important)**
- EU level:**
- **EU level recommendations on DfA related curricula**
 - **EU funded research on DfA topics**
- Ministry level:**
- **Recommendations on curricula**
 - **Quality assurance, DfA included in the quality criteria**
 - **DfA measures linked to university funding**
 - **Research on DfA topics**
 - **Other (please specify)**
6. From your perspective, how could higher education institutions be encouraged to commit to the development of Design for All education [courses, modules etc]? **In your response, you may consider the following themes:**
- **The role of professional organisations**
 - **The role of industry**
 - **Policies 1) from the ministries, 2) from the EU**
 - **The role of EU level recommendations**
 - **Other**
7. What is your vision for Design for All Curricula in Europe (e.g. in 5 years time)? What would you like to see happening?
8. Other comments and/or suggestions.

9 Appendix B: Questionnaire results matrix

Q1. How would you define the term Design for all and its usage?

- Design for All in the Information Society is the conscious and systematic effort to proactively apply principles and methods, and employ appropriate tools, in order to develop IT&T products and services which are accessible and usable by all citizens, thus avoiding the need for a posteriori adaptations, or specialised design.
- Environments, contents and the interaction in all study contexts are available to everyone- (stuff, teachers, students, those who want to be students...)
- Intervention or environments products and services with the aim that everybody(including future generations) regardless gender, age, activity limitations or cultural background, can participate in social development.
- Operational means to social inclusion
- Our definition of the term is quite the same as indicated above. However, we do make a difference with regard to "Inclusive Design", adding a social / ethical dimension explicitly to the latter term. Inclusive Design is not just focussing on the aspect of having access to these products / services / environments, but also getting this access in an effective, efficient and acceptable way (usability).
- Designing products and services to include the widest possible range of users.
- 'Design for All' is a philosophy to approach design. It encourages designers and practioners to consider all user groups when designing their product / service. The term 'Design for All' is used to express the inclusive design point of view, though it is not exhaustively well-kown. I have not heard practioners like designers, product managers, programmers (in the commercially founded market) using this term.
- The ongoing consideration, during the whole period of development, to not unintentionally exclude specific potential users, and to improve the ease and comfort of use of that which is developed for a well-defined user group.
- A political/aspirational term used by EU organisations. Several related terms are used, largely determined by local experince and history, eg Universal Design in the US. Design for All is limited geographically and also by its lack of commercial relevance. The term Universal Design has been adopted in Japan by a network of 120 world leading companies, with the Crown Prince as President. The Uk British Standards Institution is publishing a British Standard giving guidance on inclusive desing management. Design for all is an EU term that represents political aspirations of inclusivity supported by EU R&D funding, in particular in the IT and related fields. It has little resonance internationally beyond the EU, and the EU would benefit from aligning itself with non-EU trends rather than ploughing its own furrow.
- Pick one from literature; for our research institution it is important that we find solutions for "our" udergroups: anybody with a disability. Some solutions can be for everybody usable, others must be made specific for persons with disabilities. Thus DfA has also responsibility for making solutions for individuals available. Extrapolation form the "normal" consumergroup may make the group with more difficult impairments smaller and these smaller groups must not be forgotten!

Q2.To your knowledge, is your institution committed to Design for All approach (also concepts inclusive design, universal design, inclusion, accessibility can have been used)? (Yes, no)

Yes, from all respondents.

Q2. Can you identify since when?

- 1998, since it was funded. Only recently has a name, the name DfA, been added to it
- At least since 2000.
- Since the foundation of the research institution: 1980: not calling it as such, but the

- principles where included in our thinking and policy
- 1999
 - 1989 with a more narrow definition, since 1996 in the sens of the definition under point 1
 - 1995
 - since the constitution in 2001
 - 1995
 - 2004
 - 1994 univeristy/ 1988 research organisation
 - 1991
 - Accessibility in the capability statement.
 - it is made clear in the yearly planning doc's
 - yes.
 - Per definitionem ergonomics is the science that adapts products, environments and serices to the needs of (all) its users.
 - Project plans & action plans
 - Yes, the constitution and all the publications
 - The mission statment says respect for persons and the environment.
 - The Rector has issued a relevant directive. The University has also set up a commission for the accessibility of its premises, and has undertaken a project concerning the accessibility of the University Library. DfA is part of the syllabus in certain courses.
 - In the mission statement, in the structure and organisation, and in the R&D and education and training activities.

Q2. Is the commitment explicitly expressed in the mission statement, strategy documents or in action plans? (Yes, no) If yes, please identify the relevant documents.

Q3. Obstacles preventing the development of DfA strategies?

Lack of awareness of DfA	2 1 2 3 2 2 1 3
Dfa not considered important	1 3 3
Lack of interaction with other stakeholders	2 2
Lack of refs to good practice	3 3 1
Lack of research	1 1 3 1 2
Lack of legislation on inclusion or Dfa	3 1 1 1 2 1

2 - Most faculties can do without "design or accessibility focus" and it is hard to change a working system

1 - curricula are already very large, institutions have difficulty fitting in DfA into tight schedules.

3 - Some of these issues refer to the mentality of those who have not yet seen the light, others refer to those who do see the purpose of it and would like to develop the concept.

I kept my opinion on the side of the development and thus would like to actively alter the situation over the whole.

Other

I think the major obstacle is terminology. Education must have real-world relevance. Companies are interested in increasing market share and brand recognition. They are also concerned to avoid future liabilities arising from litigation resulting from upcoming legislation. If we are to educate a new generation of designers we must do this using language that companies understand and subscribe to. I am afraid that unless there is clear, specific and enforacable legislation embodying the design for all word and a clear definition of it, the whole enterprise will fail. This is the biggest obstacle.

Legislate do not pontificate.

Q4. Most effective means to support DfA bottom up

Individual champions	2 3 3 1 3 1 2
Benchmarking Dfa education	1 2 2 1 2
Research on DfA, knowledge transfer	1 1 3 1 1
Networking	2

Integration of DfA into strategies	2 2 1 2 1 2 3
Pressure from professional organisations	3
Pressure from industry	3 3
	3 - Economical/financial pressure & prizing (caused by terms of funding, bad/good publicity, growing demand for DfA competence & products)
	• ther (please specify) – make it sexy. If DfA is not exciting for students they will not subscribe to it and it will remain a marginal activity.
Other	<ul style="list-style-type: none"> • Demonstrate its effectiveness in terms of innovation in products and services, and also in terms of commerical advantage. I.e., make it sexy to companies. • Give recognition to students and staff, through awards, scholarships, competitions, professional advancement and national/educational honours systems. I.e., make it sexy. <p>3 - moderate legislation</p>

Q5. Most effective means to support DfA top down

Eu level: recommendations on curricula	3 3 2 3 2 3 2
Eu funded research on DfA topics	1 3 1 1 3
Ministries: Recommendations on curricula	3 3
Ministries: Quality assurance	2 1 2 1 2 2
Ministries: Dfa linked to university funding	1 2 3 2 1
Ministries: Research on DfA topics	2 1 1
	1 - for polytechnics municipality is most important
	3 - method for the implementation in business should also be created. Up to now there are to often statements made by those who have enough knowledge on the topic that they simply need to do it, but i guess that a lot of businesses would not know what to do if they would learn about the vision of DfA. Some of the researches on the topic can work towards that aim.)
Other	<ul style="list-style-type: none"> • The only way to create a climate in which this will happen is to create a level playing field on whihc companies comp[ete to deliver DfA. Legislation is the only effectivce top down way to achieve this. All the rest is a waste of time and money.

How could HEI be encouraged to commit to DfA education?

- Role of industry, policies (both EU/national), recommendations
 - The role of professional organisations: more money (or lower taxes) to those osagations which really do something concret in the name of DfA
- The role of industry – “–
- Policies 1) from the ministries, 2) from the EU Create manuals of quality standards
- Following EU and national policies universities should integrate Design for All as an ethical approach for the future professionals
 - My perspective is one of multidisciplinary university aiming at high standard research, higher education, adult education and life-long-learning goals as well.
- It seems to me that without any strong demand for accessible arrangements and DfA-oriented contents considering courses and research the bottom-up efforts will hardly be effective enough. So it pays to make DfA interesting from the managements point of view which may be possible by any stakeholder or actor mentioned as themes as follows. Industry and business branch can become a key factor as a client ordering DfA-oriented research and development as well as

educated DfA-professionals.

Professional organisations, industry and EU are all capable to

- Focusing instead of micro-economic benefits more towards the added value for the society as a whole, connotating “Design for All” with “good design”
- Push DfA legislation for all products and services. Colleges in Ireland are very responsive to the demands of industry and will develop courseware if it is seen to be unnecessary.
- The higher education institutions receive incentives when they add ‘design for all’ modules into their subjects i.e. design & technology, IT, computer technology, fine arts, sociology etc
 - Introduce EU wide design awards schemes where students and industry collaborate on projects
 - Improve the dialogue between EU research and the industries
- The role of industry
 - Policies 1) from the ministries, 2) from the EU
 - (money makes the world go round... I know some people that would love to dig into this topic, if only there was the funding (or if it could be found!))
- Pay key members of staff more and give them real recognition.
- Put real resources behind DfA initiatives.
- Sponsor institutional, national and international competitions.
- Put real resources behind these.
- Honour staff that drive the concept forward (whatever name you insist on putting on it)
- The role of industry (most important: if some legislation “forces” industry to give it attention, then industry will ask R&D and Universities for curricula and for specific advice on typical issues
- Policies 1) from the ministries, 2) from the EU Would it be nice if in the regulations for large tenders, the proposers have to consider (are forced to) the DfA as a quality aspect?)
- The role of EU level recommendations (none/almost useless when not accompanied by stronger measures)

What is your vision for Design for all curricula in Europe?

- Appropriate knowledge transfer from successful research to education and industry.
- Design for all must be included in all levels of education, the universities and polytechnics is not enough. Vocational training must be included – those persons building and maintaining DfA buildings, urban environments, etc.
- All education – on every level – should be “open” in the meaning that everyone could choose the major (f.eg. in the Uni) and the contexts and the way (contact vs virtual, individual vs group etc.) he/she wants - not what he/she is available because of his/her individual cognitive, physical or social limitations. All education (places, materials, interaction...) is reachable, really.
- There will be some post graduate courses led by individual champions and more content related to the respect to human diversity although maybe not called Design for All
- In my vision DfA Curricula includes holistic concept of man as a starting point and meets the needs of organizational learning, research, development, designing, marketing and transdisciplinary network skills. This kind of high participation of different views (philosophy, engineering, architecture, ITC, marketing, education,...) in communicating and training would enhance many professionals but it should be

carefully structured or adaptive in order to meet the different needs and orientations of students.

- Positive, constructive competition regarding good examples; development of cross-sectoral, cross-disciplinary cooperation. Recognition of cultural differences; development of assessment / evaluation criteria to separate good from poor design.
- Integration of DfA into all design, business, architecture and software courses in response to clear and practical guidelines and legislation.
- I like to see all students being aware of the 'Design for all' philosophy. I like to see new products commercially available that has been designed with Design for all in mind. These products could have a label or sticker indicating that though process behind.
- There will be a group that is working hard for the implementation in the Netherlands (well, it looks like there will be). For other countries I would not know, but I can only imagine that every (well thinking) country will try and make it happen.
Hopefully the EU will get involved in it, so that time and money does not get wasted on the same researches in different countries.

If we are smart about it we will emphasis on the profitability of the concept. The involvement of businessmen and designers, architects and policymakers might prove useful in this development.

- Initiating the discussion on a high level on legislative measures: this will draw attention in itself. Industry would be forced to go into it because of future legislation. When in five years time some consensus can be build by this process, legislation can then consolidate the situation and keep it from driving away from the achieved consensus.

Other comments/suggestions?

- This questionnaire has been difficult to answer. Secondly, it is designed for universities only, which is not even half of the students that must be reached.

Secondly, the questions don't give a real response to the question of what is the situation of DfA in an organisation. What about partner projects, what about registrars offices and other staff, and what about ITC accessibility?

This questionnaire should have been tested before implemented.

I don't believe the results will show much.

- In Spain there is an agreement between several faculties of different universities and the Design for All Association (EIDD branch) to through the Rector's Council of Spanish Universities, propose to the Education Ministry the inclusion of Design for All as one of the main descriptors in different carriers (architecture, engineering, design, management, tourism, education, telematics, etc....) to develop specific master degrees, optative matters, research lines and degree's thesis awards.
- That it has been normalised as an essential part of good design and a good design education. That means mainstreaming the idea, and that means understanding the real facts. Unfortunately, if you ask people what DfA means, they interpret it as design for disability. Although between 10 and 20% of the population is disabled (depending on how you do the maths) most such people are old, not young. Disability is largely age-related, but this is not the common perception. Without careful definition, DfA is not a valid term, it remains only a political aspiration and hence suspect.
Design for All is not achievable, anymore that Universal Design is achievable. This fact must be recognised. All I have to do is identify one person who cannot use a product or access a service to establish this. Not a difficult task. If we really want a world that works for everyone, then we must take a very different approach. We have to have legislation, and we have to have definitions of reasonableness. We also have to have specialised interfaces, add-ons and adaptations. None of these square with design for all, which is why I describe it as an aspirational term. The

ECC can devote funding to it, and make it a goal (aspiration) but that does make it realisable. I believe it is the duty of all of us working in the broad field to bring these realities into the open. If we do not then we are wasting time, money and embracing failure.

For the past 13 years I have promoted the idea of inclusive design as a progressive, evolving approach to design that works in the real world of compromises, market forces, human error and imperfect technology. It is about doing the best we can, not about impossible aspirations wrapped up in politically correct language.

10 Appendix C: USA references

10.1 Universal Design Research Project⁸⁵

The Universal Design Research Project was a three year study funded by the U.S. Department of Education National Institute on Disability and Rehabilitation Research. This project was designed to gain an understanding of

- why and how companies adopt universal design,
- and what factors are the most important in making this decision.

In addition,

- factors which discourage or impede the adoption and successful practice of universal design are also being identified.

A second objective was to

- determine what those outside of companies can do to support universal design within the companies.

The list of internal factors impacting the adoption and successful practice of universal design by consumer product manufacturers includes, e.g., issues related to product designers and human factors resources:

- An effective human factors group or other knowledgeable internal resource group positioned to facilitate the practice of universal design.
- Policies and procedures that mandate and incorporate universal design into our product development process.

The list of strategies for facilitating the adoption and successful practice of universal design by consumer product manufacturers includes e.g. issues related to training and education:

- Incorporation of universal design into professional training programs in design and development of products and services.

As part of the Universal Design Research Project, a survey of former students of universal design education programmes was also conducted. An initial survey of 93 students from the "Design and Human Disability and Aging" course taught over the past eight years at UW-Madison has been completed. The project team was also interested in surveying the former students of other programs.⁸⁶

In the following, both relevant legislation and institutions on federal and state level in the USA, related to the development of Universal Design

⁸⁵ http://www.trace.wisc.edu/docs/univ_design_res_proj/udrp.htm

⁸⁶ http://www.tracecenter.org/docs/univ_design_res_proj/uwsturep.htm

education and research policies, are identified to provide a point of reference for the state-of-the-art in Europe.

10.2 Legislation

- **Rehabilitation Act of 1973:**

- <http://www.nationalrehab.org/website/history/act.html>

- The Rehabilitation Act prohibits discrimination on the basis of disability in programs conducted by Federal agencies, in programs receiving Federal financial assistance, in Federal employment, and in the employment practices of Federal contractors. The standards for determining employment discrimination under the Rehabilitation Act are the same as those used in title I of the Americans with Disabilities Act.

- **Americans with Disabilities Act 1990:** <http://www.ada.gov>

- The ADA prohibits discrimination on the basis of disability in employment, State and local government, public accommodations, commercial facilities, transportation, and telecommunications. It also applies to the United States Congress.
 - The act comprises of 4 titles: Employment, State and Local Government Activities, Public Transportation, Public Accommodations, Telecommunications Relay Services

- **Electronic and Information Technology Accessibility Standards (Section 508 of the Rehabilitation Act Amendments - 1998)**

- "requires that when Federal agencies develop, procure, maintain, or use electronic and information technology, they shall ensure that the electronic and information technology allows Federal employees with disabilities to have access to and use of information and data that is comparable to the access to and use of information and data by Federal employees who are not individuals with disabilities, unless an undue burden would be imposed on the agency. Section 508 also requires that individuals with disabilities, who are members of the public seeking information or services from a Federal agency, have access to and use of information and data that is comparable to that provided to the public who are not individuals with disabilities."

- <http://www.section508.gov>
 - <http://www.access-board.gov/sec508/508standards.htm#Background>
 - <http://www.access-board.gov/sec508/guide/act.htm>

- **Access Board** <http://www.access-board.gov>
 - Federal Agency Committed to Accessible Design

10.3 Education/Research - National Level

- **US Department of Education** <http://www.ed.gov>
 - In 1980, the U.S. Department of Education was created by bringing together offices from several other departments. Its original directive remains its mission today — to ensure equal access to education and to promote educational excellence throughout the nation.
- **DoE - Office for Civil Rights**
<http://www.ed.gov/about/offices/list/ocr/index.html>
- **DoE - Office Special Education and Rehabilitative Services**
 - **The National Institute on Disability and Rehabilitation Research (NIDRR),**
<http://www.ed.gov/about/offices/list/osers/nidrr/about.html>
"It is the mission of NIDRR to generate, disseminate and promote new knowledge to improve the options available to disabled persons. NIDRR's focus includes research in areas such as employment; health and function; technology for access and function; independent living and community integration; and other associated disability research areas."
- **National Centre for the Dissemination of Disability Research**
<http://www.ncddr.org/>
 - Established in 1995, the NCDDR performs research, technical assistance and demonstration activities focusing on the dissemination and utilization of disability research funded by the National Institute on Disability and Rehabilitation Research.
- **Interagency Committee on Disability Research**
<http://www.icdr.us/> is chaired by the Director of NIDRR. Authorized by the Rehabilitation Act 1973 is "mandated to promote coordination and cooperation among Federal departments and agencies conducting rehabilitation research programs."

10.4 Accreditation (<http://www.rbs2.com/accred.htm> - essay on US system accreditation)

- **Regional Accrediting Organizations:** There are six regional accrediting organizations for universities in the USA, each with a different territory. These regional accrediting organizations accredit all degrees, in all subject areas, in an entire university.

- The Council for Higher Education Accreditation (CHEA) <http://www.chea.org> is a private organization that coordinates the regional accrediting organizations, as well as the accrediting organizations in specific academic subjects.
- **Accrediting Organizations in Specific Subjects e.g.:**
 - **Arts:** <http://www.arts-accredit.org/intro.jsp>
 - National Association of Schools of Art and Design <http://nasad.arts-accredit.org/index.jsp>
 - The major responsibility of the National Association of Schools of Art and Design is the accreditation of education programs in art and design, including the establishment of curricular standards and guidelines for specific degrees and credentials.
 - NASAD works with other peer associations such as the American Craft Council (ACC), the Association of Independent Colleges of Art and Design (AICAD), the American Institute of Graphic Artists (AIGA), the Industrial Designers Society of America (IDSA), and the National Art Education Association (NAEA).
 - **Engineering & Technology**

The Accreditation Board for Engineering & Technology (ABET) <http://www.abet.org> has representatives from all of the major engineering professional societies in the USA, including the Association of Mechanical Engineers (ASME), the Institute of Electrical and Electronic Engineers (IEEE), and the National Society of Professional Engineers (NSPE), amongst many others.
 - **Computer Science**

The Accreditation Board for Engineering & Technology, Computing Accreditation Commission (ABET-CAC) <http://www.abet.org/cac1.htm> . The Computing Sciences Accreditation Board (CSAB) <http://www.csab.org> participates in ABET. The CSAB includes representatives of the Association for Computing Machinery, the Computer Society of the Institute of Electrical and Electronic Engineers, and the Association for Information Systems.
 - **National Architectural Accrediting Board** <http://www.naab.org/>
 - **Full list here for nationally recognized accrediting agencies:**

http://www.ed.gov/admins/finaid/accred/accreditation_pg4.html#Nationally%20Recognized

10.5 Third Level Institutions

- **Trace Centre - College of Engineering - University of Wisconsin - Madison** <http://trace.wisc.edu>
 - Trace Center Mission Statement: To prevent the barriers and capitalize on the opportunities presented by current and emerging information and telecommunication technologies, in order to create a world that is as accessible and usable as possible for as many people as possible.
 - Universal Design / Disability Access program headquartered by Trace (Part of National Computational Science Alliance - Funded by National Science Foundation)
 - University courses at University of Wisconsin-Madison, e.g. Design for Human Disability and Aging
 - Maintains supported positions for graduate students
 - Industry Training Course: "Designing for Usability, Flexibility & Accessibility"
 - Universal Design Research Project (3 yr) funded by NIDRR
 - Guidelines for the design of consumer products to increase their accessibility to persons with disabilities or who are aging - Trace
http://trace.wisc.edu/docs/consumer_product_guidelines/toc.htm
 - Work primarily funded by NIDRR
- **Centre for Universal Design - North Carolina State University** <http://www.design.ncsu.edu/cud/>
 - Funded by NIDRR as a Rehabilitation Engineering Research Center (RERC) on Universal Design and the Built Environment. The RERC's purpose is to 1) Improve the accessibility and usability of the built environment, and 2) Advance the field of universal design.
- **IDEA Centre - University of Buffalo** <http://www.ap.buffalo.edu/idea/>
 - IDEA is dedicated to improving the design of environments and products by making them more usable, safer and appealing to people with a wide range of abilities, throughout their life spans. IDEA provides resources and technical expertise in architecture, product design, facilities

management and the social and behavioral sciences to further these agendas.

- Programs: e.g.
 - Innovative Product Development - This design program develops innovative assistive technology, building products and consumer products with universal design features.
 - Funded by NIDRR as a Rehabilitation Engineering Research Center (RERC)
 - E.g. "Universal Model Curriculum" project
- **Universal Design Education Online** <http://www.udeducation.org>
 - The site supports the teaching of universal design and provides educators a place where to interact with each other. It aims to "develop a community of learners who exchange information for the benefit of all".
 - The project is conducted jointly with the IDEA centre in University of Buffalo, Centre for Universal Design in the North Carolina State University and the Global Universal Design Educator's Network⁸⁷.
 - site supports educators and students in their teaching and study of universal design.
 - <http://www.udeducation.org/teach/index.asp> - list of courses/education applying Design for All/Universal Design principles, teaching techniques etc
 - the project is separately funded from the RERC centres by NIDRR.

10.6 Other DfA/Universal Design Related Institutions and Organisations

- **National Endowment for the Arts** <http://www.nea.gov>
 - Activities relating to both the elderly and people with disabilities
 - Research: Various publication on universal access/accessibility and design for all: http://www.arts.gov/pub/access_pub.html
 - E.g. Design for Aging: An Architects Guide, by the National Endowment for the Arts and the American Institute of Architects, 1986
- **National Science Foundation** <http://www.nsf.gov>

⁸⁷ <http://www.universaldesign.net/>

- Funding projects such as "Engineering Education for Inclusive Design" through its division of Engineering Education and Centres.
- **Education, Outreach and Training partnership for Advanced Computational Infrastructure EOT-PACI** <http://www.eot.org/>
 - **Mission:** to demonstrate the use of NSF PACI technologies and resources, to increase the participation of underrepresented groups and to enable broad national impact in education, government, science, business, and society with systemic, sustainable, scalable programs.
- **Industrial Designers Society in America** <http://new.idsa.org/index.htm>
 - One of the objectives: Raise the bar on design quality through professional development and continuing education...
 - Prepare suggested industry guidelines on the environment, universal design, etc.
 - Communicate/publish the elements of good design to the profession, students, public, and business
- **Adaptive Environments** <http://www.adaptenv.org/index.php>
 - Adaptive Environments is a 25 year old educational non-profit organization committed to advancing the role of design in expanding opportunity and enhancing experience for people of all ages and abilities. Projects vary from local to international. All are characterized by collaboration and user participation.
- **Universal Design Education Project - e.g. University of Oregon** <http://www.uoregon.edu/~sij/udep/>
 - The Universal Design Education Project (UDEP) is a national effort organized by Adaptive Environments Center in Boston, MA to challenge existing values in design education by supporting curriculum development and teaching interventions that incorporate the principles and values of universal design.
 - Support came from the National Endowment for the Arts, the Disability Rights Section of the US Department of Justice, and private foundations.
- **Information Technology Technical Assistance and Training Centre** <http://www.ittatc.org/> <http://www.ittatc.org/>
 - charged with providing accessibility training and technical assistance related to Section 508 of the Rehabilitation Act and Section 255 of the Telecommunications Act
 - audience: industry, state officials, trainers, and consumers

- funded by the National Institute on Disability and Rehabilitation Research (NIDRR)
- located at the Georgia Institute of Technology in Atlanta, Georgia
- **Resna - Rehabilitation Engineering and Assistive Technology Society of North America** <http://www.resna.org>
 - "We are an interdisciplinary association of people with a common interest in technology and disability. Our purpose is to improve the potential of people with disabilities to achieve their goals through the use of technology. We serve that purpose by promoting research, development, education, advocacy and provision of technology; and by supporting the people engaged in these activities."
 - Technical Assistance Project - Policy Information Pipeline - Universal Design
<http://www.resna.org/taproject/policy/initiatives/univdesign.html>
 - Funding from corporate sources