Stimulating economic growth and employment by orienting businesses and economic policy towards the Design for All concept

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Short version

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1. Objective

The research project “Stimulating economic growth and employment by orienting businesses and economic policy towards the Design for All concept” was jointly undertaken by the International Design Center Berlin (IDZ) and the SIBIS Institute for Social Research and Project Consultancy (SIBIS). RWI Essen (Rheinisch-Westfälisches Institut für Wirtschaftsforschung) was involved in drawing up the economic conclusions.

The objective of the project was to examine the economic stimuli which would be generated if the Design for All concept were to be taken into account in the development of products and services and in the design of workplaces. By analysing national and international Best Practice examples, the strategies chosen for implementing Design for All, the obstacles to be overcome, and whether and which positive effects could be derived for businesses and the economy, were examined.

The examination has revealed that the Design for All concept is becoming increasingly important, particularly in light of demographic change. Gerontologists speak of aging in three senses: the absolute number of older people is increasing – in 2030, the number of people aged over 60 in Germany alone will be around 26 million; the percentage of older people as part of the population as a whole is increasing – in 2030, those over 60 will represent around 33% of the population; and thirdly, the number of very elderly people is increasing – in 2030 the number of people aged over 80 will have reached around 4.3 million.

This aging of the population goes hand in hand with an increase in the number of people with disabilities: at the end of 2005, there were around 6,765 severely disabled people in Germany, around 8% of the population. Disabilities appear predominantly in older people. Over half of severely disabled people are aged 65 and over; 21% belong to the 55-65 year age group, and only 4% are under 25 years of age. In 84% of cases, the disability was mainly due to illness, with only 5% of disabilities being congenital.

The Design for All concept is based on an understanding of design in which the shaping of the built environment is oriented towards people (human-centred design approach). It is a question of avoiding stigmatisation and taking the huge range of human diversity into account. As such, Design for All addresses not only older people, or those with disabilities, but also young families, children, or people who because of illness or injury, are experiencing temporary difficulty in gaining access to spaces, goods and services.

Alongside this social objective, Design for All is also increasingly gaining an economic perspective, as older people have become an important customer group for many companies. Knowing the needs of older consumers and considering these in the development and design of products and services promises competitive advantages and market success.

However, demographic change does not only mean an increased need for products, environments and services which are accessible and usable. Because of the increasing aging of the workforce and longer working life, there is also a greater need for workplaces which meet the demands of Design for All.

2. Procedure and Methods

A three-phased qualitative research approach (funnel process) was used which focuses on (a) the identification of international Good Practice examples of Design for All (N=60), (b) the selection of the best 15 case examples, and (c) the empirical analysis of these Best Practice examples.

(a) To identify the international Good Practice examples in Germany, Europe, the USA and Japan, the following methods were applied:

- **Desktop analysis**
- **Expert questioning by e-mail**
- **Expert interviews**

The 60 examples identified are classified into seven areas of application; they are documented in standardised table format in the annex of the report.

(b) As agreed with the client, the study primarily focused on the areas of services, consumer goods and work(place) design. Of the 60 Good Practice examples identified, 15 case studies were selected from these areas. The selection was based on the four central criteria of Design for All, which specify that products, services and workplaces must be designed in such a way that:

- **they may be used by as large a group of users as possible without modification,**
- **they are adaptable, i.e. can be easily adjusted to meet different needs,**
- **the use of individual auxiliary aids is possible,**
- **potential users are (as far as possible) involved in all stages of development.**

(c) Finally, the 15 case studies were subjected to an empirical analysis. The following companies were involved in the survey:

- **Services:**
  Credit Suisse Group AG (Accessibility Initiative)
  Edeka Nordbayern-Sachsen-Thüringen (The Multigenerational Supermarket)
  Scandic Hotels (Accessibility Initiative)
- **Consumer goods:**
  BSH Bosch und Siemens Hausgeräte GmbH (EasyStore refrigerator; Liftmatic oven)
  Miele & Cie. AG (Klassik washing machine and tumble dryer)
  Froli Kunststoffwerk GmbH & Co. KG (Frolexus bed systems)
  WMF Württembergische Metallwarenfabrik AG (WMF 1 coffee pad machine)
  S. Siedle & Söhne Telefon- und Telegrafenwerke OHG (hands-free entryphone with colour monitor)
  Alfred Kärcher GmbH (RC 3000 vacuum cleaner robot)
  Andreas Stihl AG &Co. KG (Stihl MS 181 C power saw)
  Siemens AG/Gigaset Communications GmbH (Gigaset E 150, E 360 and E 365 telephones)
  Wanzl Metallwarenfabrik GmbH (Light/Tango 90 E shopping trolley)

- **Work(place) design:**
  Fahrion Engineering GmbH & Co. KG (Personnel development for older employees)
  Metoba Metalloberflächenbearbeitung GmbH (Workplaces for women)
  Joseph Vögele AG (Ergonomics in road building: ErgoPlus operating console)

The analysis of the businesses and their products/services was carried out on the basis of in-depth expert interviews. They were structured around a detailed interview guideline, which was modified accordingly for each case study. The interviews were conducted either face to face or by telephone and generally lasted for one hour. The 15 case studies are documented in detail in the long version of the report; the interview guideline and an overview of those interviewed is contained in the annex to the study.

On average, five expert discussions were held with each business; the interviewees were employed in the following functional areas: product management, design, development, distribution, marketing, personnel, management or executive board. Furthermore, for each case study, those external service providers were brought in who were involved in the development of the identified product, service or workplace design (design offices, consultancy firms, usability experts, etc.). The business survey was rounded out with interviews with academics, representatives of business confederations, and representatives from organisations and state bodies, who are promoting Design for All or similar concepts for economic reasons.

The detailed case studies and expert interviews form the starting point of the economic considerations.

3. Summary of the empirical results

3.1 Design for All as an economically successful strategy for the businesses surveyed

The objective of the project was to examine the economic stimuli which are generated where the Design for All concept is taken into account in the development of products and services and workplace design. The empirical analysis of Best Practice examples showed that the chosen implementation strategies have proved successful for the respective businesses:

DFA products combine innovative technology, outstanding design and high user-friendliness. Products which meet Design for All criteria can be used by the widest possible circle of users, are adaptable to different needs and/or allow interfaces for the use of auxiliary aids. This makes it possible for the business to broaden the market for its products and/or open up new markets, and thus increase its potential turnover.

This also applies to those examples examined in the service sector: thanks to increased quality of service and the adjustment of individual services to those clients who had previously tended to be overlooked – older clients, people with sensorimotor impairments or with disabilities – services are made more attractive “for all” and the businesses themselves benefit in economic terms.

The empirical analysis of Best Practice examples revealed the strategies chosen for implementing Design for All, what obstacles had to be overcome, and what the associated positive effects for the businesses were. How this succeeded in individual cases is explained in the study and documented in the long version of the report. The businesses interviewed see their activities in the area of Design for All as being successful, and based on their previous successes, they intend to continue with and/or step up these activities.

3.2 Different traditions and different concepts

The terms “Design for All” and “Universal Design” are still relatively new in Germany and come either out of the debate around architecture and planning (accessibility of buildings, transport systems, etc.) or from a design context. This does not however mean that the concepts themselves are unknown outside these design disciplines: thus usability and ergonomics have long been important aspects in the development of consumer and investment goods. Businesses operate their own usability labs or employ external service providers to test products and to come up with ways of optimising how they are operated.

The study has shown that efforts towards creating Design for All in the three areas examined – services, consumer goods and workplace design – are based on varying theoretical concepts and have been given different names.

The selected service companies are interested in accessibility, i.e. accessibility and usability “for all”, i.e. also for people with impairments or disabilities. Special mention should be made here of barrier free access to buildings, more convenient shopping, operation of ATMs by deaf people, special rooms for allergy sufferers, bank statements with bigger print, signage for the blind in hotels, and barrier free internet access.

With the examples from the work process, the term “Design for All” is (still) unfamiliar. The terms used here tend to be “accessibility” (Barrierefreiheit), “ergonomics”, “family-friendliness” and “age-proofing”. The effects of demographic change are leading to a decline in the number of young employees and an increase in older ones. As such, ergonomically optimising the workplaces of older employees speaks for itself, but it is also relevant in terms of younger employees' workplaces, so that those employees remain fit for work and can be kept in the production process for longer.

Services	accessibility, generational concept
Consumer goods	user-friendliness, usability, ergonomics only in a few cases: Design for All or accessibility
Workplace design	ergonomics, age-proofing, family-friendliness

Table: Overview of the concepts employed by the businesses

With regard to the selected consumer goods manufacturers, their efforts go by various names. For Siedle, for example, its claim to accessibility or Design for All is created by the thing itself: “Everybody can be at the door, with disabilities or without, in a wheelchair or with a pushchair”. At BSH, the claim of Design for All has been firmly embedded in the corporate strategy for years. For the majority, however, it is a question of optimising ease of use and user-friendliness, as is the case, for example, with regard to WMF, Froli, Miele, Wanzl or Kärcher. The common denominator is their emphasis on usability and simple operation – in other words the objective is to provide high technical quality, good design and optimised operability for a large number of customers, and thus reach the largest target groups possible.

For these businesses it is not a question of producing special equipment or special products for people with impairments or disabilities, but rather of producing products that may be used by as many consumers as possible. However, in many areas it is impossible to manufacture a product “for all”, nor is this the goal; what is important is to measure the suitability of a product against the question of precisely which user groups are to be reached: a customer with impaired mobility has different requirements of a product to a person with impaired hearing; the usability of white goods’ control panels must be assessed differently for somebody with impaired vision and a person with arthritis. What may lead to optimised usability for one group may exclude other groups still further. Therefore it is necessary to precisely focus on the intended users, right from the planning stage.

The results of the study make it clear that the claim of manufacturing products “for all” cannot be applied to every appliance. Rather the goal should be to have individual products within the portfolio which are particularly user-friendly for people with sensorimotor impairments or disabilities: not all coffee machines need only one button; not every telephone needs big keys; not all shopping trolleys should be lightweight – but any good company should have at least one DFA product in its portfolio.

3.2.1 Definition of a binding catalogue of criteria

The study has shown that innovative product design, particularly in the sense of Design for All, requires an interdisciplinary approach. All of the businesses questioned start their development process

with interdisciplinary workshops, and many maintain this interdisciplinary working method over large sections of the product development process. This primarily involves cooperation between product development, design, marketing, assembly, advertising and distribution. Some businesses also use external consultancy firms – design offices, or providers of market research and usability testing. This interdisciplinary approach has been tried and tested by these businesses over many years.

Design for All is not an exclusive concept with which product designers alone may engage; and barrier freedom is not solely the tool of ergonomic and software engineers. Rather, in successful businesses, it is a question of establishing the theme across disciplinary borders and embedding it in the respective work processes. Design for All is also an important point of orientation in assembly, economy, electrical engineering, social sciences and in machine construction, etc.

The businesses examined have developed internal steering mechanisms for their product development processes based on the use of databases, checklists and/or quality assurance. These tools contain criteria pertaining to usability, sustainability, etc. Some of the businesses questioned have also developed and established Design for All criteria. These positive findings, which are comprehensively documented in the report, indicate just how important it is to specify and define Design for All criteria. The results of the survey suggest that this would encourage the spread of the Design for All concept into corporate practice; while the concept remains partially or wholly undefined, there is a risk that its interpretation will remain entirely subjective.

3.2.2 Involving the users

The Design for All concept is based on the analysis of needs, wishes and acceptance of the customers. As such, the users must be involved as far as possible in the development process of products and services. All of the Best Practice examples examined meet this requirement; involvement of the users in the innovation process has largely become a matter of course.

In most cases, the users' opinions already play a role at the idea stage – whether it be feedback from distribution, critical voices from sales, trend studies from social and market research, or user findings from other industries. Sometimes being personally affected is the root cause, in other cases, it is down to years of technological experience. It is second nature for international businesses to undertake user testing in different cultural settings for important innovations: comparative tests in Germany and other European countries, and tests in the USA or Asia where the users have a different acceptance of technology and divergent product preferences.

It is less usual to involve people with impairments or disabilities in these tests. In terms of Design for All, it is not sufficient to involve only young and fit test subjects in product development – older people and those with disabilities should also be included. Only from this perspective can a product's usability "for all" really be proven. The study showed the positive effect of having cross-generational test groups and involving people with disabilities. Usability tests with older people identify the operating weak points faster. It is difficult for those not affected to imagine the operating problems faced by mobility impaired people; a test in a wheelchair will show up the weaknesses straight away. The same goes for visual and hearing impairments, or for impairments related to touch and grip.

The study makes it clear that there is still insufficient awareness around this issue. This applies both to the businesses examined, to the external social and market research service providers involved, and to ergonomics and design. One positive note, however, is that there certainly are businesses and consultants in Germany who are already integrating this approach into everyday practice, and the study documents the success of this strategy.

3.2.3 External presentation and marketing of Design for All

The term “Design for All” is used very differently in corporate communication: the businesses surveyed communicate the corresponding services clearly, and those companies questioned who are involved in work(place) design “for all”, are also increasingly going public with their efforts.

The situation is different in the area of consumer goods: in none of the businesses surveyed is Design for All used in the company’s own market strategy, since the term “Design for All” has too close connotations with “age”, “disability” and “rehab” – and would therefore be detrimental to the sale of their products. This does not however mean that these businesses are not aware of older people or those with impairments as buyer groups. Rather it is a question of how they should be addressed: numerous social and market research studies have shown that, just like younger consumers, older people and those with impairments also prefer appliances that are “chic”, “trendy” and “young” – particularly when they are paying for these products themselves and they are not being provided as aids by their health insurance or medical supplies store. Businesses are indeed recognising that for an increasing number of customers, “chic” does not necessarily mean “tinier”, “more complicated” or “more innovative” but rather “less is more” or “get less”.

The businesses’ attitude to the question of a “Design for All” quality mark is just as varied as their marketing strategies. The businesses surveyed all agree that any quality mark must differentiate adequately sharply between products which are very good and those which are less good. Further, from a corporate point of view, it is important to find a broadly effective designation for such a quality mark. As such, terms such as “easy to use” or “user-friendly” are seen as more effective than the term “Design for All”. These terms offer the advantage that they avoid any connotation of “age” and “disability”, while addressing the purchasing criteria of “ease of use” or “simplicity” which are important for an ever widening circle of customers.

It is certainly acknowledged that drawing up a quality mark would help towards defining binding DFA criteria. This would also make it possible to embed DFA criteria in public tenders. The businesses surveyed definitely see that this could provide major momentum towards Design for All.

4. Economic conclusions

4.1 Stimulating economic growth and employment

Businesses need to adapt to changing supply and demand conditions in order to assert themselves in the market. That this is also essential in times of demographic change, and how this can be done, is shown in the case studies. Businesses which are very successful in their respective markets have developed goods and services which meet Design for All criteria. Although the present study cannot quantify this, it may be seen in qualitative terms that growth and employment potential are created when businesses orient themselves towards the Design for All concept.

The selected case studies also clearly demonstrate that the German economy is beginning to make increasing adjustments to demographic change; even though this study cannot put a figure on it, these adjustments represent considerable economic potential. Thus the question arises of the role the state can play in harnessing the potential of orientation to the Design for All concept, in order to achieve positive economic and employment effects.

On an international level, in 2007 the Council of Europe recommended that the member governments should pursue the goal of full participation by citizens, through promoting Design for All. As such, the creation of new barriers should be avoided from the outset by finding solutions which are accessible and usable by all. This applies in particular to people with disabilities. For this purpose, it was recommended that the EU member governments should organise or promote information campaigns which would reach a broad public, and affected parties in the private sector in particular. It is further recommended that cost-benefit analyses be commissioned with regard to the application of Design for All, in order to illustrate the effects of the concept for a wider public. It is also recommended that Design for All competence centres be set up, in order to inform the public and those directly affected by means of Best Practice examples.

In this connection it is also worth mentioning the EU Commission's decision whereby, when it comes to granting funding from the EU regional fund, it has for some time been giving priority to projects which fulfil Design for All or accessibility criteria.

In the same sense, the IAT Institute for Work and Technology) recommends that the state should create incentives for businesses to take action, not only by altering the structural framework, but must also provide “targeted political impetus”, in order to “activate the innovation and growth potential in this area”.[1] In this way, the state's own objectives, such as integrating people with disabilities into society, or improving the quality of life of citizens of all ages, could be better pursued.

Embedding political will for comprehensive social inclusion of older and disabled people, as well as immigrants and other groups into legislation, where these require this form of support, represents a normative demand on the state itself, equivalent to a personal obligation, which thus gives rise directly and indirectly to economic effects.

[1] Hilbert, J./Naegele, G. (2002): Dienstleistungen für mehr Lebensqualität im Alter. Ein Such- und Gestaltungsfeld für mehr Wachstum und Beschäftigung, in: Bosch, G. (Ed.): Die Zukunft von Dienstleistungen, Frankfurt/Main et al., p. 347-369

4.2 Information on the concept and dialogue between the players

In view of the undisputedly increasing importance of goods and services which are adapted to the needs of an aging society, it is sensible and necessary to step up the discussion around the Design for All concept. The case studies of Best Practice examples in the area of Design for All which form the empirical core of the present study have created the impression that the deliberate and targeted expansion of the businesses' target groups to include older people and/or those with impairments does not yet have the same importance in Germany as it does in some other countries. The dramatic consequences which result when businesses fail to adapt in time to changes in consumer preference were illustrated in 2008/2009 not least by the crisis in the American motor industry which, as was seen with the benefit of hindsight, had clung on for too long to its old recipe for success, continuing to produce big, gas guzzling cars.

By continuing to promote the academic study of changing consumer demand, the state can help to ensure that German business is spared the risks of underestimating or overlooking the reshaping of consumer structures, and thus leaving those consumers open to foreign competitors. Business and, in particular, those affected, need to engage more intensively with the problems and exemplary solutions. This can be done, as is already happening, by means of appropriate exhibitions of Best Practice examples.

Interviewees from the various businesses and experts interviewed suggested that the public debate be stimulated by means of a series of conferences, which would bring together those involved and interested parties from both the supply and demand sides, and from the state. At these conferences, individual issues would be discussed in a targeted manner and, perhaps, in isolation. Alongside procurement, other special issues were proposed such as ways of improving barrier freedom in tourism and modern information technologies. In this connection, the industry confederations would have an extremely important role to play in transmitting information and networking the players.

On the subject of information support, surprisingly, it appears that informing the supply side is easier than informing the users. It is obviously difficult to convey age- and disability-friendly solutions to potential customers in such a way that they feel spoken to. Attempts by businesses to address marketing target groups as "problem cases", for whom suitable solutions are on hand, have emphatically failed. This applies in particular to the much-discussed "New Seniors", as is made very clear not only in the literature but also in the business survey.

One tool which can be used to signal compliance with certain criteria to consumers is the quality mark. Widely differing views were expressed on this subject in the case studies. While some businesses trust in quality marks, others are sceptical about their value, and not only for reasons of cost. Researchers share this scepticism. This appears to confirm the existing impression that the debated rethink in the direction of Design for All primarily needs to take place behind the scenes, within the businesses themselves, and in those state agencies responsible for public procurement and tenders.

4.3 State incentives and statutory measures

The classic tools of German economic policy are, alongside promoting the dissemination of information, the provision of financial and non-monetary incentives. In terms of financial incentives, options include the previously mentioned possibility of considering Design for All criteria when evaluating bids, tax relief, or loans to Design for All projects which are especially worthy of promotion. Another method of support could be the financial sponsoring of competitions for exemplary DFA solutions.

The state's non-monetary tools include, in particular, voluntary agreements and standards. Just how effective such stimuli are in terms of implementing the goal of promoting social inclusion would have to be examined from case to case.

In principle statutory measures to implement state objectives are not used in Germany to push through certain types of economic policy, although they are deployed to achieve superordinate goals such as environmental protection or the equal participation of all citizens in public life. The pursuit of, say, the goal of barrier freedom with the help of statutory regulations has tangible effects on market processes if it leads to a restructuring of the framework conditions for business activity.

4.4 Clear specifications for public tenders and procurement

Political measures and initiatives on different levels for the further provision of barrier freedom and inclusion, particularly of people with disabilities, should be pursued, accompanied by suitable monitoring of their effectiveness and conformance with the given objective. In this connection, clear specifications for public tenders and procurement – i.e. when the state itself plays the role of consumer – are particularly effective with regard to stimulating new technical developments in the business world. The stimuli generated here on the development of Design for All solutions can be decidedly effective.

5. Recommendations for action

On the basis of the results presented, specific measures which could help to promote Design for All in Germany are discussed below:

5.1 Detailed definition of terms and concepts

International research, expert discussions and the business survey have made it clear that the term "Design for All" is not established across the board, rather various terms and concepts are used instead in parallel: Design for All, Universal Design, accessibility (Barrierefreiheit), usability, ease of use, etc. The study was not able to adequately clarify whether there is actually a need to standardise the existing concepts. From the businesses point of view, this is not absolutely necessary. From the perspective of a socio-scientific and economic evaluation, it would be helpful to at least clarify the terms used, and to communicate with regard to the differences between the concepts. Firm specification would also advance the implementation of these concepts in practice.

5.2 Development of guideline criteria

Those businesses surveyed which successfully apply the Design for All concept have developed their own definitions and criteria for it, and have embedded them in internal instruments (checklists, criteria catalogues, databases). This approach usually involves a high degree of coordination between those involved in the production process, particularly in large businesses. The criteria developed are tailored to the specific needs of the individual business, and cannot be generalised.

Some of the businesses surveyed clearly state that drawing up and disseminating DFA criteria would make it easier to implement corresponding concepts in practice. However, such documentation should be prepared in such a way that it can be integrated directly into the respective company's innovation process. Guaranteeing this calls for a double effort: on the one hand, the business first needs to engage with the content, and then needs to ensure an adequate formal implementation, e.g. in a database structure which would be easy to implement within the corporate processes.

Documents have already been drawn up in the national, European and international standards committees which can be used to establish DFA criteria. Those businesses surveyed who define standards are familiar with these documents. Other available documentation, e.g. specialist reports, are too little known. It should be examined how these can be better tailored to the needs of companies, so that they can be more easily applied there.

5.3 Specification of user involvement

User involvement is an important criterion of Design for All. It can provide valuable information on the design and production of goods, and can help to avoid mistakes. This finding has meanwhile been applied in many companies: user options are frequently the starting point of the development process; prototype testing is (almost) a matter of course, and customer feedback after market launch is standard. However, all of this is based on widely varying standards, using different test groups: company employees, experts, usability tests with stratified spot checks, standardised acceptance studies, international tests, etc.

The study has shown that in many companies, there is still insufficient awareness of the need to involve older users and/or people with disabilities. This calls for further education, and/or the need to communicate the benefits of expanding tests to include these groups.

5.4 Study of the effectiveness of quality marks

The effectiveness of quality marks is disputed. On the manufacturing side, there were different views with regard to the positive effects of labelling with a “Design for All” quality seal. The response from consumers is largely positive, as they see quality marks as an aid to orientation when choosing a product. On the other hand, increasing numbers of quality marks and inspection seals on packaging tend to lead to greater confusion rather than better orientation.

Our study suggests that the advantages and disadvantages of a “Design for All” quality mark should be scientifically evaluated and possible designations for such a quality seal examined. Further, the question of how a new quality seal could be effectively established in the market should also be explored, as should the issue of which independent institution would be best suited to issue such a quality mark. Finally, cost-benefit analyses should be undertaken, possibly based on experience with other quality marks.

5.5 Direct state sponsorship options

What contribution can the state make towards the increased implementation of the Design for All concept? Alongside further promoting academic discussion of the issue, specifications in tenders and public procurement can be a direct and decidedly effective method of stimulating new developments on the part of business.

Incentives in the shape of low-interest loans or grants – such as for example are already being given by the KfW Bank for the age-friendly conversion of living space – represent a further opportunity of exerting influence on the supply side.

More stringent legislation could be a further means of accelerating the implementation of Design for All. This kind of statutory regulation is being demanded, inter alia, by representatives of the movement for disabled peoples’ rights, which is critical of the ineffectiveness of the instrument of target agreements contained in the the Federal Act on Equal Opportunities for People with Disabilities (BGG). However, this option should only be considered if all other steering measures fail.

5.6 Intensifying communication and consultancy

The lack of Design for All publications was mentioned several times during the expert interviews and the need to promote publications in this area was underlined. In this regard, it is not only books that should be promoted, but also brochures and leaflets which could be distributed via the business confederations and other multipliers in the industry. Exhibitions, online product databases, brochures, etc. would also be helpful. These should focus on Best Practice examples, whereby not only the well-known and adequately communicated examples should be given, but also the less well-known examples produced by SMEs and small service companies.

The study has shown that there is not yet an adequately clear definition of how “goods, services, equipment and facilities” should be designed, in order to meet Design for All criteria. This was confirmed in the new UN Convention on the Rights of Persons with Disabilities, recently ratified by Germany, Article 4 f of which expressly obliges the signatory states “to undertake or promote research and development of universally designed goods, services, equipment and facilities […] to promote their availability and use, and to promote universal design in the development of standards and guidelines”.

When it comes to promoting the “availability and use” of research findings, it is essential that the business confederations be involved, so that they can inform and advise their members with regard to demographic change and Design for All. These processes should be accompanied by a scientific evaluation.

5.7 Promotion of research and exchange of experience

As varied as the designations are, the personal and institutional means of engaging with the subject of Design for All are equally diverse. Networking activities and players would be an important prerequisite for promoting the exchange of knowledge, experience and ideas. In this regard, interdisciplinary efforts are particularly important: experts from various design disciplines, ergonomics, social sciences, economics and gerontology, as well as business confederations and companies should be involved.

The need to hold specialist conferences and conventions was expressed several times during the course of the expert interviews. Alongside the expected acquisition of findings and expert exchange, such events can also help to improve networking within the area as a whole. It is also recommended that smaller events and workshops be held, which can firm up the subject matter at individual sector level and/or set a regional focus.

In order to progress research within the subject area, a comparison of knowledge and experience at home and abroad is necessary. The strategies which have been applied in the Scandinavian countries, the USA and Japan, for example, to anchor Design for All or Universal Design more firmly in research and teaching, as well as in business, demonstrate considerable diversity. The concepts cannot be seen as culture-neutral; their interpretation and implementation are inherently coloured by cultural mores.

5.8 Strengthening basic and further education

The study shows that design based on the Design for All concept affects completely different disciplines: architecture, urban and spatial planning, design, product development, assembly, marketing, distribution, ergonomics, social sciences, building management, etc. During their studies (with only a few exceptions) these groups of professionals receive no basic training for the later application of Design for All. This means that there is a great need for corresponding basic and further education measures.

Training: the concept and the approach to Design for All should be embedded in the relevant courses of study. In the best case scenario, this means they are embedded in the canon of obligatory subjects:

Each designer, architect, planner, mechanical engineer, etc. should at least have heard the basics during the course of his studies and know the requirements that exist on the part of the users, which DFA criteria are important and which guidelines and standards should be taken into consideration in later professional practice. Two examples of this approach by universities are the Social Design Competence Centre at the Niederrhein University of Applied Sciences, which offers interdisciplinary project seminars in the areas of design, social welfare, and economics, and the interdisciplinary Masters degree course on barrier free systems offered by Frankfurt University of Applied Sciences.

Further education: There is equally a need for professional further education, in order to acquire people who are in a position to develop, distribute, and recommend products, and bring them in to training and projects. Individuals with these kinds of additional qualification can also be deployed in product development or management, as well as in market research and usability testing. Depending on the qualifications acquired during their initial studies, further training modules on the various subject areas can provide a basic understanding in certain specialist areas, e.g. in product and communications design, in engineering sciences, architecture, social work, sociology, psychology, gerontology or information science. This approach is, for example, being taken in the development of a Design for All further education programme at Cologne University of Applied Sciences.

In order to implement such proposals, various progressive research and implementation efforts are required, as is close cooperation with comparable approaches such as the initiative of the VDE (Association for Electrical, Electronic & Information Technologies) to establish further and continuing education courses on the subject of ambient assisted living.

To summarise: It is generally possible to reach agreement quickly and comprehensively on the intentions of Design for All. Who, after all, does not want user-friendly goods and services which are optimally suited to the customer? And who would assert that certain groups of people, such as those with disabilities or people of advanced years, should be excluded from this?

The problem here lies in formulating the detail and, above all, in its practical implementation within a competitively organised meritocracy. But precisely in view of the fact that there appear to be no differences of opinion with regard to the objectives, and that the study has shown that Design for All has generated positive stimuli with regard to growth and employment in the companies surveyed, further efforts towards the successful implementation of this essentially good idea are worthwhile.