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Loccum Memorandum

**Technical Assistance Systems for Demographic Change –
an Inter-generational Innovation Strategy**



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Recommendations of the Experts' Council

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Preamble

The starting point for the development of technical assistance systems designed for independent living in old age was the demographic change and the associated alteration of the population's age structure. Today, the focus has expanded to embrace technical assistance systems and accompanying services that are able to assist, in the best possible way, all persons with temporal or permanent handicaps in their daily activities. Furthermore, there is a need for technical aids for care-giving relatives, neighbours and professional nursing services, the aim being to support, by means of innovative technical solutions, independence and participation in family, neighbourhood and social life. In so doing, elderly people are an important, though not the only, target group.

From the point of view of the experts' council, technical assistance systems and accompanying services should aim to use and strengthen the potential and resources of all people – that is, young and old, healthy and chronically ill alike, as well as disabled persons – and to bring their knowledge and experience to bear in social life. The elderly people in the first place are an asset for society in view of their experience and their rich and versatile knowledge. In cognizance of this fact, opinions that predominantly see old age as a liability should be corrected in favour of the model of active and committed elderly people. The experts' council recommends focusing the debate more on the opportunities provided by demographic change and adopting an inter-generational innovation approach.

Recommendations of the Experts' Council

The starting point was the needs of elderly persons

The starting point of the research on technical assistance systems frequently was the growing group of elderly persons and their interest in living, as long as possible, an autonomous and independent life.

Important needs of those people are to continue living in their own homes and staying healthy, to obtain support for remaining mobile and for having their safety guaranteed in and outside their homes. Social contacts with friends, relatives and acquaintances and the possibility of social participation, be it in private networks, in honorary functions or in political, cultural, sports and church activities, are equally important. For elderly people being needed and living a meaningful life is an important factor of success.

The elderly people differ fundamentally in their age, state of health, forms of relationship and family networks, educational standards and vocational and professional experience. A distinction must be made between older, increasingly disabled persons with independent housekeeping, older people who have given up their former home environment for a life in an attended dwelling resort and younger persons who are fitter in terms of health, whose life hardly differs from that of people of middle age.

The transition to younger age groups is fluid. As a result, younger groups of persons and their need for support are increasingly becoming the focus in the development of adequate assistance systems. Thus, answering the question as to how younger relatives of needy older people can be relieved from burdens to harmonize their family life, vocation and care for those relatives is becoming an important contribution to mastering demographic change and assisting older working people on the job, thus ensuring that they

are integrated into a gainful activity for a longer period.

Broadening the scope towards an inter-generational innovation concept

The broad circle of people of all ages targeted by technical assistance systems increasingly suggests that the Universal Design guidelines should be taken as a basis to start from. This concept is not only directed at older people, but also at young families, children or persons who, as a result of accidents and injuries, temporarily have restricted access to rooms, commodities and services. The point is to explicitly account for the great diversity by which people distinguish themselves and to avoid stigmatization. All people should be enabled to participate in society on a basis of equality irrespective of their individual abilities, their age and sex or their cultural background. A corresponding inter-generational concept will broaden the circle to which innovative technical assistance systems are addressed to all people with temporal or permanent handicaps.

Avoiding stigmatization

Presenting technical assistance systems as solutions adequate for old or disabled people has shown to be problematic. Senior people do not want to be addressed as "old", people limited in their mobility not as "disabled", and family members supporting and nursing elder people not as "nursing relatives". Attempts to designate target groups as "problematic cases" for which appropriate solutions are available have expressly failed.

This is the reason why adequate concepts need to be developed which allow potential users to identify positively with technical systems. Moreover, forms of address have to be developed that show the usefulness

of technical assistance systems for younger target groups alike. Concepts such as “living without worry”, “assistance systems for all situations in life” or “desire for a long life” could be useful, as they avoid associations with “handicap”, “stage of nursing care” or “admission to a home”. Working out adequate concepts of address should be largely instrumental in making such systems a success.

Making potential users in research and development part of the equation

The success of technical assistance systems largely depends on the adequate consideration of the needs, desires and requirements of potential users and on their early integration into the development of technologies and services. Enabling users to participate will help to develop requirements analyses, to test and evaluate product concepts, as well as assessing operation concepts or to designing products, forms of packaging and instructions for use.

There is an increasing awareness of the potential of early integration of users in the development of products, technical systems or services, but this awareness is still insufficiently translated into practice. The advantages provided by integrating older users or disabled persons into technical developments is underestimated in particular. The increased value offered by such an approach must be shown and communicated in a better way.

There are fears and reservations towards innovative technologies especially relating to possible infringements of people’s autonomy and privacy, to control and (data) supervision and to expected high follow-up costs and burdens. This is compounded by fears of becoming dependent on technical systems, of having to cope with complicated instructions and, last but no least, of being

exposed to a technology that cannot be adequately comprehended in its diversity and mastered by the individual. These barriers to acceptance should be investigated systematically and the results of the analyses be taken into account in developing the technical assistance systems and accompanying services.

Promoting Modular Systems and Integrative Concepts

One barrier preventing the spread of technical assistance systems still is the limited interoperability of products, technical solutions and systems. Many of the products that are already ready for market entry cannot be integrated into the emerging new technical infrastructures or only at a considerable additional cost. Especially with regard to the projects funded by the BMBF (Federal Ministry of Education and Research), the emphasis should definitely be placed on making the technical innovations developed there mutually compatible or interlinking them without great cost and easily integrating them in a transparent and standardized form into services for the citizen.

The experts’ council believes that it will be helpful to implement modular systems that are targeted at open interfaces and a catalogue of standards. It should furthermore be ensured that the different assistance systems are not only mutually compatible but exhibit a satisfactory system ergonomics in the whole context of their application, that is in their interaction with more products, systems and services.

Making stronger use of the instruments of evaluation

Scarce funds must be used more efficiently and effectively. This objective can only be achieved if public funding measures are evaluated regularly. In this area Germany still has to catch up. Therefore, all departments should allocate a certain portion of their expenditure for application, supply and impact research. In so doing, it is particularly interesting to show which assisting technologies and services lead to which results under which conditions and for which users.

The success of technical assistance systems and accompanying services will also depend on the possibility of providing evidence for their added value and effectiveness for those involved and for society. To do this, social science studies are needed which analyze their usefulness for elderly persons, family members and nursing staff and economic expertises with corresponding cost-benefit calculations. Only if such proof has been provided will the health and nursing care insurance companies participate in financing AAL (Ambient Assisted Living) technologies and consumers be prepared to spend money on AAL systems and make them part of their everyday life.

The outcome of this research is also of major importance for the commitment of industry. The political community and the ministries involved can ensure that the German economy correctly assesses the demographically caused transformation of the consumer structure and does not relinquish the market to foreign providers by further funding scientific investigations on the usefulness and advantages of technical assistance systems and making the results available to companies.

Taking overall conditions into account

The chances for success of technical assistance systems are equally dependent on the overall socio-economic, legal and ethical conditions. In this regard, research has a lot to catch up on. Of relevance are questions of data protection, of liability law, of financing, and of ethical implications. Solutions must be sought that reinforce the role and the rights of the supported people and that require that they expressly consent to the use and widely differentiated application of the services in all aspects. Questions relating to contract law and especially to liability law are at stake when people and machines get closer and closer together in daily life and when these machines increasingly act autonomously. The technical systems must be easily integrated into family and neighbourhood structures as well as into honorary and professional services.

The ethical debate on the use of AAL is still at its initial stage in Germany. Public awareness of this debate should be raised and be substantiated by research work. This is not meant to be a new edition of the debate conducted in the eighties of "Ethics versus Technology", but rather an attempt to put on the agenda ethical issues for the development of AAL technologies at an early stage. Where fundamental innovations such as technical assistance systems and accompanying services are concerned, the point is to address ethical, social and economic questions in an integrative and timely manner. Expanding the concept of innovation from an exclusively technical to a social and economic line of vision should be a matter of course in further funding innovative technologies for demographic change.

Fostering cooperation between ministries

The efficiency and consistency of German research and innovation policy is impaired by the heterogeneous competencies of different federal and regional ministries. The grown organizational structure of departments, project agencies and research establishments is also responsible for the fact that the question related to the way technical assistance systems can contribute to solving demographic changes has not yet resulted in a consistent new strategic orientation in innovation policy. Closer cooperation between the ministries would help establish the theme “Technical innovations for demographic change” as a field of innovation across the ministries. First steps in this direction have been done by setting up inter-ministerial committees; the experts’ council supports combining the efforts of the heterogeneous German research landscape as well as integrating German efforts in European and international activities.

In this connection accompanying interdisciplinary efforts are required, such as those made, for example, by the BMBF / VDE innovation partnership. Involved in this initiative are national experts from different technical disciplines, the social and ergonomic sciences, economics and gerontology and from associations and companies. The events and meetings organized by the innovation partners help not only to gain new insights and exchange professional experience but also to improve cross-linking within the respective field of themes. Such initiatives should be strengthened and galvanized.

Making technical assistance systems familiar

The application potential of technical assistance systems is not sufficiently known. Both the political and economic community are called upon to provide information through adequate campaigns and to enlighten the public on the existing potential. This would include congresses and workshops as well as the distribution of brochures and booklets on associations and consumers organizations. Exhibitions, product data banks on the internet, the dissemination of Best Practice examples and of research results from other European countries, the United States and Asia would also be a step towards this aim.

Useful would be media partnerships for the print media, but also for radio stations and TV productions. Pioneering developments in the domain of the technical assistance systems should get a slot on TV programmes, especially the early evening programme of regional programmes that are regularly watched or listened to by potential user groups.

Resumé

An effective innovation strategy for demographic change requires both research efforts and endeavours to translate them into practice. The experts' council suggests that more funds should be made available for the transfer of research results into commercial applications. Better use should be made of the chance of producing sustainable job effects in competition with other countries and of consistently improving the overall conditions for start-ups in the field of technical assistance systems. Special emphasis should be placed on the importance of small and medium-sized companies which largely contribute to the development of technical assistance systems.

The experts' council recommends making available technical assistance systems with a different range of services, in a flexible way and at different costs. Needed are modular systems, combinations of high-tech and low-tech solutions as well as modular solutions for different demands and income groups. Helpful would be accompanying services, which by involving for example honorary staff in neighbourhood structures or church activities, also integrate lower income groups. The interfaces to social and medical services should be developed further.

The experts council suggests that the users of technical assistance systems themselves should be won over to this innovation strategy as "ambassadors". This applies particularly to the growing group of people dealing with themes of the future directly related to the themes addressed here. The experts' council recommends involving relevant associations and organizations, citizens' initiatives and self-help groups, regional and inter-regional players in a broad information campaign "Technical Assistance Systems for Demographic Change - an Inter-generational Innovation Strategy".

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