

Thematic report / 专题报告

# Universal design

Clarification of the concept

## 通用设计

概念的阐明



MILJØVERNDEPARTEMENTET



## Foreword

Universal design thinking has become widely recognised and applied in Norwegian political documents, statutory framework and technical guidelines. The concept of universal design has played a constructive role in developing the understanding of good functionality for all as a beneficial feature of society, and for promoting equality and adequate accessibility for persons with functional impairments.

However, there has been a need for further elaboration of the substance of the universal design concept in a number of contexts. This report defines and clarifies the concept of universal design, thereby establishing a common basis for the application of this strategy in Norwegian public documents; for theoretical, methodological and practical development; and for use in information material.

The text has been developed on the basis of feedback and input from government agencies, specialist institutions, organisations and individual government ministries.<sup>1</sup> Activities have been organised and carried out in cooperation with the Delta Centre under the Directorate for Health and Social Affairs.

The Ministry of the Environment recommends that the definition and interpretation of universal design employed in the memorandum is used as the basis for future efforts relating to universal design in the various sectors.

The conclusions set out in the memorandum will form the point of departure for the Ministry of the Environment's efforts to further develop of the Planning and Building Act with appurtenant regulations and guidelines.

This report does not deal with universal design as a legal standard. The Government<sup>2</sup> is currently drafting legislation to prohibit discrimination on the basis of disability (the Discrimination and Accessibility Act). The interpretation of universal design as a legal standard in that context will be assessed in connection with those efforts.

Ministry of the Environment  
November 2007

<sup>1</sup> The substance of this memorandum is the result of meetings between various organisations, the Delta Centre (National Resource Centre for Participation and Accessibility) and the Ministry of the Environment in the spring of 2006. A draft document was circulated to a number of different agencies and institutions. Feedback and input were received from the following: Ministry of Labour and Social Inclusion, Ministry of Local Government and Regional Development, Ministry of Health and Care Services, Ministry of Government Administration and Reform, Ministry of Children and Equality, Ministry of Fisheries and Coastal Affairs, Ministry of Justice and the Police, Ministry of Education and

Research, National Office of Building Technology and Administration, Norwegian Public Roads Administration, Directorate of Public Roads, Norwegian Directorate for Education and Training, Directorate for Health and Social Affairs, National Centre for Documentation on Disability, Norwegian Federation of Organisations of Disabled People, Norwegian Association of Disabled, Contact

<sup>2</sup> As a result of changes in the Government in October 2007, this sphere of activity will be transferred from the Ministry of Labour and Social Inclusion to the Ministry of Children and Equality as from 1 January 2008.



Alle foto: Svein Magne Fredriksen





## 前言

通用设计的概念已经在挪威的政治文件、法规制度和技术规范中被普遍接受和运用。在促进对“适合所有人使用的功能是一种社会优越性”的理解、实现平等与为残疾人创造良好的可及性的过程中，这个概念发挥了积极的作用。

但在很多场合下，通用设计的概念仍然缺乏具体和明确的定义。本报告将对通用设计进行界定和阐明，目的是就这个概念在挪威公共文件中、相关专业领域的发展中以及在信息资料中的使用达成统一的理解。

本文是在国家机关、专业机构、组织和个别部委<sup>1</sup>的反馈与建议的基础上书写成稿的。书写工作是在与社会与卫生事务总局下属 Delta 中心的协作下组织开展的。

环境部建议，这份报告中的相关界定与诠释被作为各个部门在未来通用设计工作中的基准。

环境部在规划与建筑立法及制定相关法规和导则时，将以本报告的结论作为出发点。

通用设计在本报告中不被视为一项法定标准。内阁政府<sup>2</sup>正在筹备一部禁止歧视残疾人的反歧视与可及性法案。在筹备工作中，将就通用设计在此主题下作为一项法定标准的诠释作出评定。

挪威环境部  
2007 年 11 月

<sup>1</sup> 这份报告的主要内容来自 2006 年春天由几个组织、Delta 中心（全国残疾人参与和可及性事务中心）与环境部共同参与的一次会议。其草案被送往一系列机构听取意见。给予反馈和提出建议的有以下单位：劳动和社会融合事务部、地方政府与地区事务部、卫生和护理部、更新和行政管理部、儿童和平等事务部、渔业和海岸事务部、司法部、知识部、国家建筑技术局、国家公路交通管理部门、公路交通总局、教育总局、社会与卫生事务总局、国家残疾人员资料中心、挪威残疾人组织联盟、挪威残疾人协会、残疾人组织联络

委员会、听力残疾者全国联合会、挪威作业治疗师协会、挪威设计理事会、消费者理事会、国家残疾人理事会和奥斯陆建筑学院。环境部召开了三次会议，广泛听取了各方面与会者的意见。这份报告是环境部在与一个编辑小组切磋商议之后整理成稿的。

<sup>2</sup> 2007 年 10 月内阁政府作了调整之后，这项工作便于 2008 年 1 月 1 日起从劳动和社会融合事务部转交儿童和平等事务部负责执行。



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## Universal design – clarification of the concept

### Introduction

#### The concept of universal design

Universal design is a strategic approach to planning and design of products and environments in a fashion that promotes an inclusive society that ensures full equality and participation for all.<sup>1</sup>

Universal design is defined as follows:

*Universal design is the design of products and environments to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design<sup>2,3</sup>.*

The universal design strategy is normative, providing a framework for specifying the qualities of products and environments such that these may be used by all members of society on an equal footing.

The merit of individual universal design solutions is to be assessed in an overall context. The universal design strategy is intended to be applied in conjunction with other societal objectives, and is to be incorporated as an integral part of cohesive design activity.

<sup>1</sup> Examples of this interpretation may be found in the UN Convention on the rights of disabled persons and the report of the Norwegian committee appointed to draft legislation to strengthen the protection against the discrimination of persons with disabilities (Official Norwegian Reports 2005:8 *Equality and Accessibility*).

<sup>2</sup> This definition is attributed to Ron Mace and has been developed by the Center for *Universal Design* at North Carolina State University.

<sup>3</sup> A definition of “universell utforming” universal design appeared in Norwegian for the first time in a pamphlet on planning and design for all published by the Norwegian State Council on Disability in 1997.



## 通用设计—概念的阐明

### 前言

#### 通用设计的概念

通用设计是在产品和环境的规划与设计中，为达到一个完全平等的、所有人都能够参与的包容性社会而采用的一种战略<sup>1</sup>。

通用设计的定义是：

*不用进行改造或特殊设计的、并在最大可能的限度内适合所有人使用的产品和环境设计<sup>2,3</sup>。*

通用设计是一项规范性战略，它为将产品和环境的质量具体化、使之能被所有人平等共享构筑了参考框架。

通用设计方案应当具有良好的总体效应。通用设计应当能够与运用对象的其它社会目的相整合，并成为整体设计的有机组成部分。

<sup>1</sup> 这种诠释的具体例子请看联合国的残疾人权利国际公约和挪威加强保护残疾人不受歧视的法案的立法起草委员会的报告（挪威官方调研报告 2005:8 平等与可及性）。

<sup>2</sup> 这是对美国北卡罗来纳州立大学通用设计中心对通用设计定义的直译。

<sup>3</sup> “通用设计”的定义第一次以挪威语出现在 1997 年国家残疾人理事会出版的关于为所有人的规划和设计的一本宣传册里。



One of the primary aims of the universal design strategy is to promote equality for and ensure the full participation in society of individuals with reduced functionality, by removing existing disabling barriers and preventing new ones from emerging<sup>4</sup>. The concept of universal design represents a new line of thinking; it incorporates a stronger focus on equality than is implied in the concept of accessibility for persons with reduced functionality. While it is possible to obtain accessibility for persons with disabilities by means of specially-targeted solutions, the universal design principle stipulates that the primary solution must be designed to anticipate the needs of all users.

In this context, design is understood to be a common term for all work processes involved in the shaping of the physical environment. This encompasses community planning, land use, architecture, construction activity, product development and more.

<sup>4</sup> The terms "reduced functionality" or "functional impairment" mean that a part of the body or one of the body's physical or cognitive functions has been lost, damaged or in some other way diminished. "Disability" arises when there is a discrepancy between the ability of the individual and the design of the physical environment or demands of society

regarding functionality. The main challenge in relation to achieving full participation and equal status in society is linked to the way in which society is designed. (From Official Norwegian Reports 2005:8 Equality and Accessibility and 2001:22 From User to Citizen).



Alle foto: Svein Magne Fredriksen



通用设计的一个主要目的是，通过消除现有的限制性障碍物和防止新的障碍物的形成，来切实维护残疾人的平等权益，并保障他们在社会中的充分参与<sup>4</sup>。通用设计的理念包涵着一种新的思维方式，因为它提出了比为残疾人创造可及性这个概念更为严格的平等要求。为残疾人提供可及性可以通过特殊的设计方案来实现，而通用设计则要求主体解决方案必须满足所有使用者的需求。

设计在这里应被理解成是外部环境建设的过程中所有工作流程的总称。这就包括了社区规划、土地利用、建筑设计和施工、产品开发等等。

<sup>4</sup> “残疾”指的是身体的某一部分或身体的某种生理或认知功能被丧失、损伤或以其它的方式被削弱。个体的能力与外部环境或社会功能提出的要求之间如存在差异，就造成了相关个体的“残疾”。

要实现残疾人在社会上的充分参与和地位平等，其面临的主要挑战与社会的设计有关。（源于挪威官方调研报告 2005:8 平等与可及性以及 2001:22 从使用者到公民）。





## Universal design – clarification of the definition

### - of products and environments -

The universal design strategy is applicable to products and environments within all sectors and subject areas. The term environments refers to all the physical and technical environments that are shaped by humans.

The term products here also encompasses products and software in the ICT sphere as well as products used in the provision of services. Universal design requirements in the service sector are linked to the physical and technical conditions governing access to or use of the relevant service. In the educational sphere, universal design is linked to the physical and technical features of the teaching environment.

### - to be usable by all people -

The phrase “usable by all people” is to be incorporated as a first starting point without exception. Environments and products are to be designed such that they may be utilised by persons of all ages with different levels of skill, ability and functionality. Factors relating to mobility, vision, hearing, comprehension and sensitivity to the environment (asthma/allergies) are important in this context.

### - to the greatest extent possible -

A key feature of the universal design strategy is its focus on seeking ever-better solutions. Universal design is an innovative strategy. Technology, knowledge and awareness levels are subject to rapid-paced change. The principle of universal design is a dynamic tool that reflects the need for ongoing consideration of new means of minimising limitations.

The ability to design products and environments such that they are usable by all may be inhibited by certain limitations relating to current knowledge, technological development, access to products and solutions and practical and formal circumstances.

The universal design strategy may come into conflict with other areas of statutory regulation, such as conservation and safety considerations. In such cases an effort should be made to seek solutions that satisfy universal design requirements to the greatest possible degree.



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## 通用设计 - 对定义的详细阐述

### - 产品和环境 -

通用设计适用于产品和环境，并涉及所有部门和专业领域。对环境的要求适用于所有人为的外部与技术环境。

产品这个术语还涵盖了信息通讯技术领域的产品和软件以及服务行业所使用的产品。对服务行业的通用设计要求与决定服务的准入与使用的外部和技术条件有关。在教育领域里，通用设计则与教学环境的外部和技术特点有关。

### - 适合所有人使用的 -

“适合所有人使用的”这种表述从原则上应毫无例外地付诸实践。环境与产品的设计应当使得不同年龄、不同技能和生理心理功能及社会能力各异的人们都能够使用它们。这里，与移动能力、视觉、听觉、理解能力以及对环境的敏感程度（哮喘/过敏）相关的因素都必须予以重视。

### - 在最大可能的限度内 -

通用设计战略的一个重要特点是，它不断地寻求更好的解决方案。通用设计是一项创新战略。技术、知识和意识水平都在快速的变化中，通用设计中所包含的动态思考也正折射出不断尝试以突破局限的必要性。

设计适合所有人使用的产品和环境可能也意味一定的局限性。这样的局限性可能是由现有的知识、技术发展水平、产品与方案的准入程度以及各种实际的和形式上的限制所造成的。

通用设计还可能与现行的法律法规产生抵触，例如在保护与安全问题上。如有这一类情况发生，应尽可能地寻求满足通用设计要求的解决方案。



**- without the need for adaptation or specialized design.**

This phrasing emphasises that the primary solution chosen is to be usable by all. Primary solutions are presumed to give adequate consideration to use of technical aids for personal use, such as wheelchairs, hearing aids, etc.

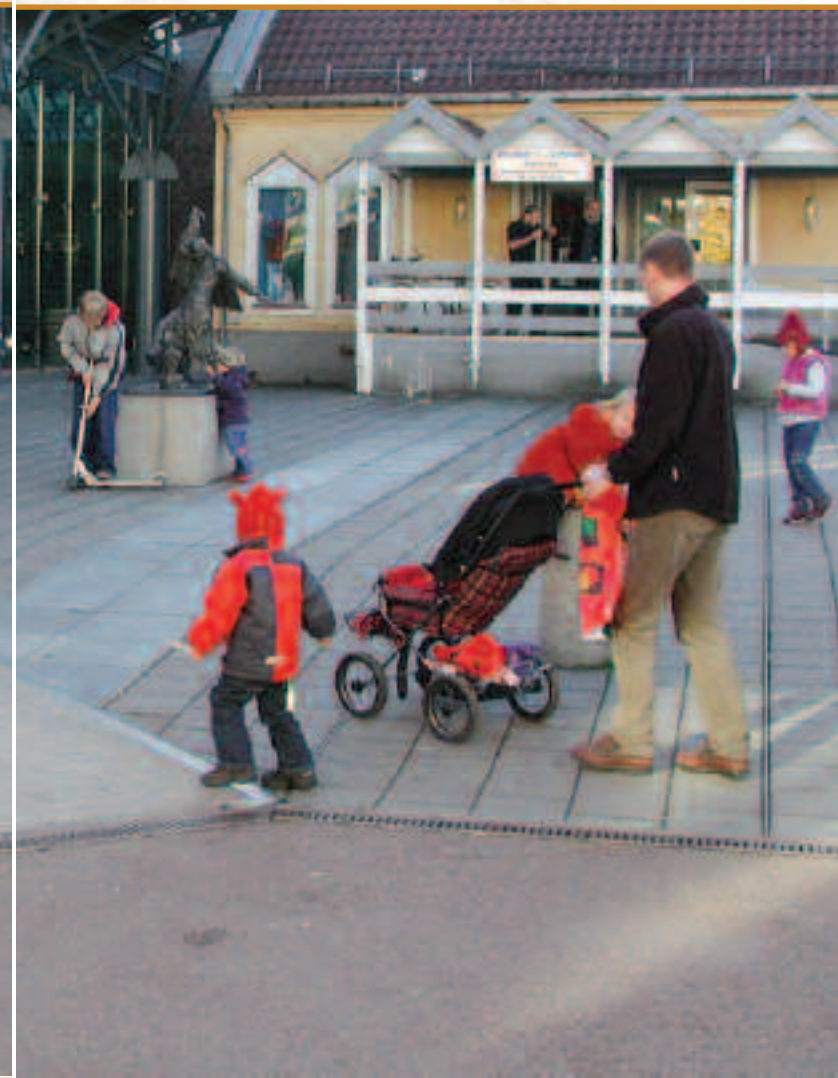
There should not be a need for any supplementary activity or work to make a solution usable for individual groups. Separate solutions for persons with disabilities should not be established, nor should the solution in any way signify that it has been specifically designed for persons with functional impairments. Special solutions intended to compensate for general solutions that are not usable by all, such as stair lifts, should be avoided.

In the event that special solutions or technical devices must be employed to render a solution universally usable, the primary solution must be designed in a manner that functions alongside or in an integral fashion with the special equipment.

Current development trends indicate that roles traditionally filled by people are increasingly becoming automated. The self-service solutions that are introduced must be based on the principle of universal design, but this should not exclude the provision of personal service and assistance.



Alle foto: Svein Magne Fredriksen



**- 不用进行改造和特殊设计的**

这种表述强调了主体方案应当能够被所有人使用。这就必然要求主体方案能够将有关个人辅助器械，例如轮椅和助听器等的使用考虑在内。

但是，主体方案一旦实施到位，不应有为个别使用者群体再进行后期改造的需求。而且，不能为残疾人作单独的设计，最终的方案也不应显示出这是为残疾人专门设计的。应当避免为弥补普通方案无法适用于所有人的缺陷而额外采用的特殊方案，例如机械爬楼装置。

如果某设计方案要能被所有人使用，就必须采用特殊解决方案或技术设备，则主体方案的设计就必须使其能够与特殊器材共同使用，或者相互结合使用。

社会发展的趋势表明，人工操作将越来越多地被自动化功能所取代。自助解决方案的设计必须以通用设计的原则为基础，但同时也要为个性化的服务与协助创造空间。



## Universal design in the context of society

### Universal design and other societal objectives

Universal design reinforces societal objectives in a number of areas, such as sustainable development, safeguarding diversity and the environment, safety in use and in case of fire, aesthetic considerations, etc. Every effort must be made to ensure that objectives in these spheres can be realised in conjunction with the universal design strategy.

The universal design strategy promotes sustainable development, primarily in terms of the social dimension of the sustainability concept.

Consistent attention to aesthetic perspectives is important to making products and facilities attractive, and may help to ensure that accessibility and usability features are seen as a natural, integral component of the design.

### Development processes and follow-up

The universal design strategy necessitates cross-disciplinarity in planning, follow-up, implementation and assessment activities. Appropriate processes for participation are needed to encourage the involvement of a wide array of users, and such processes play a fundamental role in promoting democratic decision-making. Universal design thinking does not necessarily entail the establishment of new work procedures, but requires broad participation from user organisations and various types of user groups. Insight from persons with disabilities is of central importance, and relevant special interest organisations thus comprise a key partner in development processes and quality control of solutions.

Participation may not be needed in the case of simple tasks for which tried and true solutions and standards are already in place. Complex tasks, planning in accordance with the Planning and Building Act, innovative development activities and stipulation of universal design specifications must be based on broad participation to ensure that solutions are constructive and generally applicable.

Universal design in practice requires great accuracy in terms of design, operation and maintenance needs. The margin for error is small, and imprecise implementation or insufficient maintenance may cause the inclusive element to dissipate. Operation and maintenance must be carried out exactly, summer and winter alike.



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Foto: TWM Reklamebyrå



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## 通用设计与社会

### 与其它社会目的的关系

在一系列领域中，通用设计是有助于实现其它社会目的的，例如在可持续发展、环境保护、多样性、使用和消防安全性、美观等方面。我们要尽一切努力，将通用设计的原则与实现这些社会目的加以协调整合。

通用设计有助于可持续发展，尤其是就可持续性理念的社会层面而言。

为了使产品和设施更为美观，并使其可及性与可使用性在更大程度上被视为设计理念中的一个自然组成部分，对外观设计进行美学上的整体协调是至关重要的。

### 开拓过程与跟进

通用设计这项战略对规划、跟进、实施和评估都提出了跨学科的要求。要鼓励社会各方面各阶层的使用者参与这个过程，设立有效的参与机制是非常重要的，而这种机制也是社会民主的一个基本组成部分。通用设计并不一定要求采用全新的工作程序，但需要使用者组织和具有不同知识能力的使用者的广泛参与。残疾人的经验和知识从中起着关键的作用，因此，残疾人组织是设计方案开拓过程与质量检验中的一个重要合作伙伴。

就某些简单的问题而言，如果已经存在着良好的解决方法和公认的规范标准，使用者就可能没有必要参与。而解决复杂的问题、根据规划与建筑法开展规划、开发创新项目和确定通用设计的具体规格等必须建筑在广泛参与的基础上，以确保方案的实效性和普适性。

要真正发挥通用设计的功能，设计、运营和维修保养都必须极为准确而严谨。允许产生的误差是很小的，因为实施中的偏差和建成后缺乏保养，都会使设计意图中包含的因素失去其预计的作用。无论冬夏，运营和保养都应按时和准确地加以实施。





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