

# Universal Design of ICT

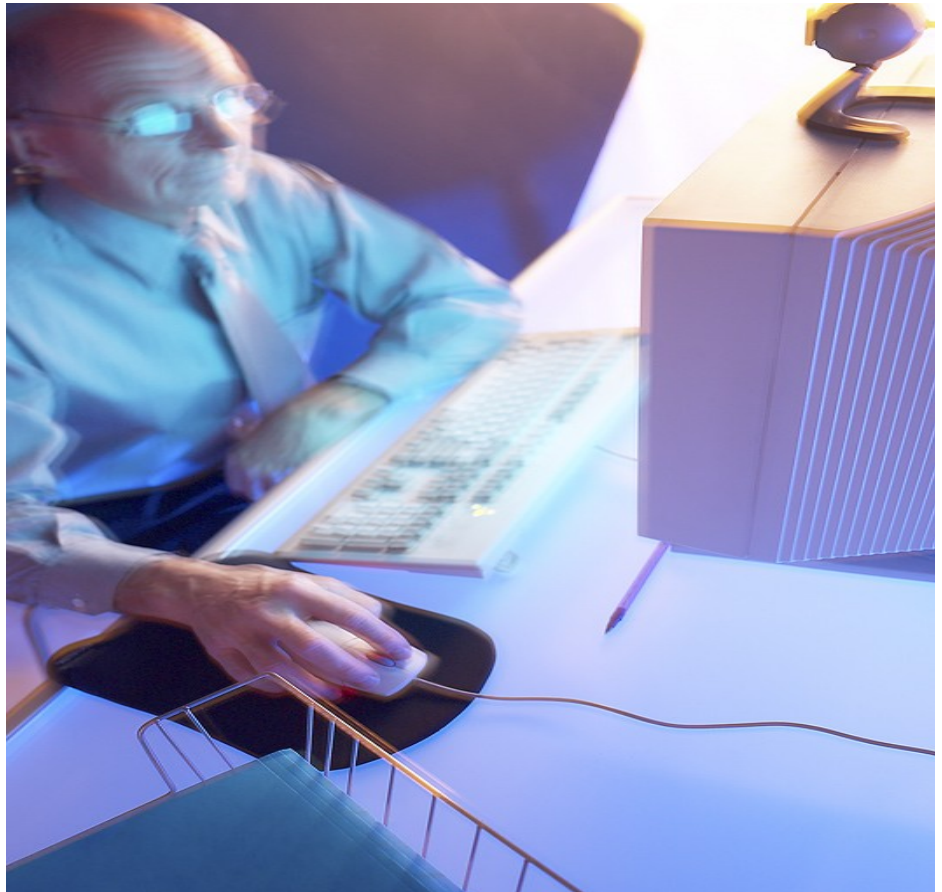
Universally designed solutions imply benefits for all, be it in the form of highly accessible products and services or in terms of a high degree of usability. Implemented properly, you can keep the costs of a UD process low, while your customers and users will thank you.

Universal design, also referred to as design for all, refers to the manufacturing and design of solutions such that as many people as possible are able to use them, regardless of age, ability, and other (cultural, ethnic, etc.) background. The goal is to include virtually everybody in the digital society.

## Everyone benefits from universal design of ICT

Sometimes, universal design is required just to get a product on the market. For example, Norway requires ICT solutions to be universally designed. But inclusive and usable products and services give many more advantages for both providers and buyers of ICT solutions.

Inclusive solutions provide



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### Selected projects

- Inclusive design of ICT-based solutions for registration and authentication
- Accessibility and usability evaluation of the upcoming Norwegian electronic voting solution
- Usable trust in the Internet of Things
- Universal design of multi-modal user interfaces
- Situated Adaptive Guidance for the Mobile Elderly

added value in the form of more users, additional user groups, and more satisfied customers. The solutions show that the provider cares about participation in the digital society. After all, it's not only about impairments, as an individual's abilities vary over time, dependent on age, temporary or lasting illness, accidents, use situations, and the environment.

A person with low vision appreciates good contrast in an application, and so does someone with normal vision when looking at a screen in full sunlight. A blind person benefits from having text mes-

sages read aloud and voice navigation just like a driver in a car. Captions and subtitles help a hearing impaired person follow along in a show or a movie as it does for everybody else in noisy environments like a plane or when the volume needs to be kept low.

### A process

Universal design is not only the goal, it's a process, too. Employed from the start and in the right manner, it does not mean increased development costs or greater effort, but better products and services for all of us.

# eInclusion Group at NR

## About our Group

The eInclusion Group works in the area universal design of Information and Communication Technology (ICT), eAccessibility, and Usability.

The Group is part of Norwegian Computing Center (Norsk Regnesentral, NR), a non-profit research institute established in 1952 and located near Oslo Innovation Center. NR's vision is «Useful research results that make a difference».

## Our mission

The objective of our work is to let as many as possible participate in the information and communication society, and to give users great digital experiences. To accomplish this, we address the topics universal design, accessibility, and usability in all our projects. We are particularly interested in how solutions work on a variety of devices, in different contexts and situations, and with a wide diversity of users.

## Target groups

Often, our target groups contain elderly and individuals with different needs, abilities, and impairments. This includes sensor, motor, and cognition deficiencies, such as reading and writing difficulties.

## Collaboration

Our Group cooperates closely with other expert groups, such as NR's Smart Information Systems Group

## Key personnel



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regarding for instance the application of multimodality techniques and multimedia content, and with NR's Security Group with regard to, for example, inclusive identity management. We also participate with both small and large national and international research group consortia.

## Funding

While one part of our work is funded by the public, such as Norwegian Research Council and EU, we are also engaging in applied small-scale research and innovation projects for the private sector, organizations, and authorities.

## Opportunities

We are constantly looking for new research opportunities; please contact our staff with your inquiry!

## Selected customers:

- Ministry of Local Government and Regional Development
- Directorate of Health
- Agency for Public Management and eGovernment
- Labor and Welfare Service

## Among our partners:

- Center for Usability Research & Engineering (Austria)
- Telefonica (Spain)
- Chemnitz University of Technology (Germany)
- Teamnet (Romania)

## Services

- Accessibility and usability evaluations
- Technical, expert, and user studies and testing, tools, and methods
- ICT solutions from concept to prototype, re-/design, implementation, integration, testing
- Technical consulting and assistance
- Monitoring, reporting
- R&D leadership and innovation support
- Project proposals, tenders, and R&D funding
- PhD and student supervision
- Seminars, workshops, conferences, talks and presentations, training, teaching