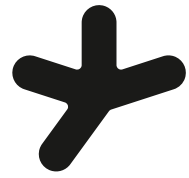


House of_ Disabled People's Organisations



The world's
most accessible
office building





House of_ Disabled People's Organisations

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**Dear reader**

Every day I go to work in the House of Disabled People's Organisations – the world's most accessible office building. In every square meter we have done our best to create a building that provides space for everyone. That is not just good for me, being a blind person, or for others with impairments. Inclusive buildings are good for everybody to work in. Our vision is a society where people with impairments can participate, contribute and be a part of society. If that vision is to be realized, it is essential to disseminate the ideas of universal design. This magazine will inspire others to build for all people. I hope you will help us share the story about the house and the ideas of inclusive architecture.

Kind regards

Thorkild Olesen

Chairman,

Disabled People's Organisations Denmark

IN 2012, THE majority of the member organisations of Disabled People's Organisations Denmark (DPOD) moved into a new office building in Høje Taastrup, outside of Copenhagen. From the very beginning, the client, the advisers and the contractors agreed that the project should stand as a Danish and international beacon for inclusive architecture: the world's most accessible office building. In other words, the project should serve as a model example with accessibility fully integrated into equal solutions in the building as well as in the interior design, furniture and communications – the basic idea being that good accessibility is necessary for some and good for everyone.

Beacon for inclusive architecture

By conceiving, designing and constructing the building as an equally accessible environment, we have created a house where all 300 employees and visitors are able to move around and work on equal terms – whether they have a disability or not, and regardless of the nature of their disability.

The building is still a beacon for inclusive architecture, though not a symbol of status quo. Instead, the House of Disabled People's Organisations can be perceived as a dynamic

laboratory for the continued development of new and innovative solutions that ensure an equal working life.

In a broader social perspective, this approach contributes to creating an inclusive labour market, where everyone can join in and no one is prevented from participating because of physical barriers. People with disabilities want to live an active and independent life. This becomes possible when society is accessible and organised for everyone.







Universal design

The House of Disabled People's Organisations is built with UN's Convention on the Rights of Persons with Disabilities in mind. Accessibility is a human right, as emphasised by the convention, and the house demonstrates how to create accessibility and thus achieve equality in the widest possible sense. People with disabilities want to be part of society: they want to be equal neighbours in the streets at home and equal colleagues at work. When we organise the community and our buildings for everyone, this becomes possible.

Accessibility and universal design are often perceived as two sides of the same coin, but this is not always the case. Accessibility is often manifested in specific solutions for people with disabilities, but these do not necessarily produce equality. With universal design, on the other hand, the ambition to create dignity and equality for all users is a basic demand. In that sense, universal design connects closely to the human rights aspects in the UN Disability Convention.



A person wearing a light blue sweater and dark blue jeans is walking up a wooden staircase. They are using a white cane for navigation. The staircase has a white metal railing with a light-colored wooden handrail. The background is a bright, modern interior space with a glass ceiling.

Understanding disability

Disability arises when a person with an impairment meets a socially created barrier in the surroundings. The barrier can be either physical or stem from attitude. This understanding changes the view on disability from a personal, medical problem which the individual should deal with himself, to an understanding that places responsibility for creating equal conditions for people with impairments with society.

Universal design is a design strategy that focuses on involving the users and thus on developing buildings, where human abilities, knowledge, requirements and wishes are integrated in the design from day one. The point is to incorporate a general usefulness in every solution, in a building and in society as a whole. Universal design also facilitates that different user needs can be met by different solutions. But in both cases, the goal is to achieve equality and diversity in order to accommodate human diversity. This should be achieved through an integrated design approach, not by resorting to devices aimed specifically at people with disabilities.

UN's Convention on the Rights of Persons with Disabilities

The Convention on the Rights of Persons with Disabilities was adopted by the UN in 2006 and ratified by Denmark in 2009. This means that Denmark commits to secure basic human rights for persons with disabilities. When it comes to the physical surroundings, persons with disabilities should be guaranteed equal access to all buildings, including schools, homes, hospitals and workplaces, in addition to roads and public transport. This is a basic human right, according to the Convention, and involved actors must be educated in this topic.

UN's Global Goals

The overall principle of the UN's 17 Global Goals, 'Leave No One Behind', reflects the fundamental principles of human rights regarding equal treatment and non-discrimination. The principle is part of Goal No. 10, which is about minimising inequality, and Goal No. 11, which aims to create sustainable cities and communities. The goal is a sustainability that, in addition to economic and environmental aspects, takes on the social aim of including all members of society.



THE GLOBAL GOALS
For Sustainable Development

Dialogue as a common thread in the process

The process prior to the realisation of the House of Disabled People's Organisations in many ways suggested a break with common practice. As the client, DPOD realised early on that the task had to be dealt with unconventionally if an innovative result were to come out of it.

Universal design doesn't cost more

Disabled People's Organisations Denmark decided to go for a turnkey contract competition, where price would count for 25 per cent, while the qualitative criteria would amount to 75 per cent in the assessment of the proposals. For this reason, the tenderers had to hand in the offered price in a closed envelope, which was only opened after the qualitative aspects had been appraised. By this procedure, DPOD wanted to show that a universally designed office building doesn't have to cost more than an ordinary office building, when universal design is implemented from the beginning as an integrated design strategy.

A new collaborative concept was also introduced: the architects, engineers and contractors were first pre-qualified individually and then brought together in five teams by the client.





Normally, the turnkey contractor sets his own team of advisers, but the client mixed the cards differently in the hope that new collaborations would result in new creative ideas and perceptions, since those involved could not use their regular work flows.

The keywords through all the phases – from tender, pre-qualification, competition and until the construction of the building – were open dialogue and collaboration across the board. Actually, all the way out to the building site where the contractor took the time to explain the building's special vision to the craftsmen. The process bears a large part of the responsibility for ensuring that the ambition of creating a building that works equally well for all users, while at the same time serving as a model example, is fulfilled.

Crash course resulted in a new perception

It was no secret to the participants that in the end only three teams would participate in the planned turnkey competition and design and calculate the cost of the building. In order to find out who the three teams would consist of, everyone had to participate in and pass a compulsory course organised by the client



in collaboration with the Danish Building Research Institute, SBI.

The purpose of the crash course was to get participants to experience on their own body, what challenges users with a disability encounter in everyday life. Therefore, the course featured a number of 'DIY exercises', where the participants tested the physical environment of a building while using a wheelchair, ear protectors, mobility stick and blindfold, respectively.

The course was an eye-opener in

terms of understanding the fundamental importance of accessibility as an architectural premise and of understanding some of the users' terms. In a wider perspective, it also ensured that all participants had the same background knowledge and therefore were able to discuss the different options from the same point of view. In short, it created a common vision.

User involvement

Prior to the competition, an extensive user involvement process was



carried out. In two parallel tracks, the process identified the users' requirements for the layout of workplaces and the work cultures of the individual organisations, while providing an overview of the general accessibility in the building. The purpose was to get a picture of what was needed to create an office building that could accommodate all types of disabilities. The end goal was to find a model that did not require differentiated or individualised solutions for the individual organisations and user groups. This emphasis on a common

denominator, rather than on the particular, was chosen to create a building that would be adaptable to future changes.

Connected to the surrounding world

The House of Disabled People's Organisations is located approximately 350 meters from public transport at Høje Taastrup station with easy access to the motorway. The house sits as a solitary building in an open landscape and is immediately visible from the station. In order to integrate the building with the surrounding urban space, and to prevent it from becoming an isolated island of universal solutions, it has been deliberately linked to the infrastructure that connects with the rest of society. A footpath, which is separated from traffic and provided with a guide line, thus leads pedestrians safely from the station to the main entrance without them having to cross the traffic area.

The location of the house on the site divides the area into two different outdoor spaces, each with its own function and atmosphere. To the east are the arrival and parking areas, as well as the main entrance, while a sensory garden with recreational areas and varied vegetation, such as fruit trees and flower beds with herbs, occupies the landscape west of the building. A gravel path with a natural guideline that follows the shape of the house winds its way through the garden, connecting to a car-free walking zone along the building's southern and eastern facades.

The parking area is level-free, laid out with a smooth asphalt surface, which makes it easier for people who are blind and wheelchair users to move around in the parking lot. The area contains 48 differently sized parking spaces for the disabled. These are located closest to the main entrance, connected to it via pedestrian passages and outlined with white stripes that contrast with the black asphalt and make them clearly visible to people with visual impairments. In addition to these



are 100 ordinary parking spaces, 10 electric parking spaces and two parking spaces for workmen, all with visible indication of function.

A guideline of concrete is designed as a low plinth that separates the footpath from the parking area along the building's east facade. More than just creating a boundary, this plinth also contains benches, dust bins and signage, which prevents the users of the house from colliding with them.

Footpaths lead across the parking area to the entrance, where a raised pattern in the pavement attracts the



users' attention. The pattern continues in the grate at the entrance and further onto the floor carpet inside the porch, providing a tactile change of direction while serving as a guideline. The grate is designed so that neither guide dogs nor mobility sticks become stuck. The automatic sliding glass doors at the entrance are equipped with horizontal markings to make them visible to people with visual impairments.



A starfish with four arms

The overall idea behind the building is that all universal solutions are incorporated from the very beginning of the design process into both the main features of the building and its functions and details. This means



that the universal solutions are naturally integrated in the building – they are invisible and do not spell aids or expose the users of the house.

The house is shaped like a starfish with four arms and there is a good reason for this. At first, the architects drafted a circular layout, but a round building is in principle boundless and therefore very difficult to navigate in for people who are blind and people with impaired vision. Instead, the circle was squeezed in four places, resulting in the four arms. The central, glass-covered atrium thus became pentagonal, creating distinct orientation points in each bend. The atrium connects all floors and serves as the building's central nerve system: this is where people meet up and interact, and from here everyone navigates in relation to the four office floors, which face respectively north, northwest, southwest and southeast.

Wayfinding through colours, light and sound

Colours, light and sound are used to create a workplace where all employees can work on equal terms. Colours are an important navigating tool and each office wing therefore has its own signature hue: red, blue, green and purple, respectively. These are selected based on the degree of contrast in relation to the surroundings and to each other.

Both when the sun is shining and when it is cloudy, the glass-covered atrium has an adequate amount of daylight, which rarely requires the use of artificial light. Daylight is good



Functions

The building is a four-storey structure with a basement. The public ground floor features a reception, lounge, meeting centre and canteen, while the basement houses a fitness room.

The three upper floors are non-public and provide a framework for small and larger offices as well as open office areas, with associated internal meeting rooms and service facilities such as kitchenettes, wardrobes, copy rooms, flex rooms and toilets. All offices are facing the facades, while the service facilities are located in the centre of each office wing.

Facts

Inaugurated: 2012
Area: 12,600 m²
Construction costs: approx. DKK 260 million
Price per square meter (excl. building plot and fixtures): DKK 15,997
Organisations in the buildings: 18 of DPOD's member organisations and 13 other organisations with relation to the disability area
Workplaces: approx. 300





for everyone, but good daylight also means that it is easier for people with impaired hearing to read lips.

The acoustics of the large atrium have also been given particular attention, as many people cross the area on a daily basis. It takes a special effort to create a comfortable sound environment for everyone, not least for people with visual impairments, as they also navigate by sound. Therefore, the balcony railings in the atrium have more than one function: they both provide safety and help regulating the acoustics in the room thanks to their circular, perforated fronts, which are lined with sound-absorbing material behind the surface. Finally, the perforated design offers a good view of the entire room, which means that wheelchair users can navigate the atrium without problems.

The office windows are higher than the suspended installation ceilings, and the walls below the windows are lower than normal. This ensures that sufficient daylight reaches far into the offices – in addition to providing an optimal view of the outside.

Measures have been taken to ensure that the employees can control the daylight according to individual needs and preferences.

The external shading consists of two systems: one comprises fixed vertical metal slats that run down the facade until just above the ground floor. The slats have a rough surface and are powder coated in a light golden tint that creates a warm light in the offices, regardless of orientation. The other consists of horizontal, automated blinds that can be individually controlled by employees. Add to this a system of interior blinds which are used to calibrate the amount of incoming daylight.

Careful detailing

The building features many well-thought-out solutions and details, demonstrating that equality and opposing needs do not have to collide.



● The reception is a fine example of how to solve a physical challenge using universal design. The counter is simply designed as an architectural element with two heights, which means that wheelchair users and others can get information and help in an equal manner and at eye-level.

● The main staircase, which leads all the way up through the atrium, is located next to the lifts based on the principle 'let's go together'. This means that two employees with different needs can choose the solution that works best for them – and then continue talking on the next floor. The lifts can be operated with an ordinary pushbutton or with a foot panel. Activation of the foot panel makes it unnecessary to use the operating panel inside the lift, as it stops on all floors. The lift also opens at both ends, so wheelchair users will not have to turn around to get out.



● In the centre of each office wing, small rooms offer a respite and the option of taking a rest on a couch, if one becomes mentally exhausted. These small havens make it easier for people with a psychosocial disability to be able to work, and are useful for everyone.



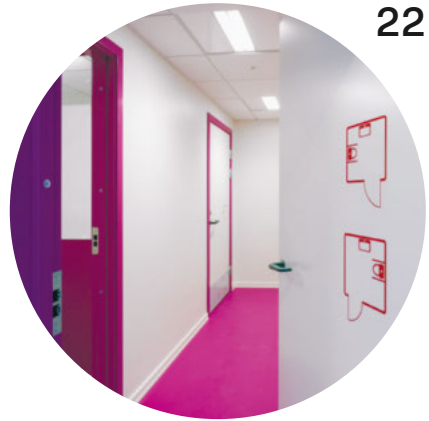
● The signage is also a part of the building's wayfinding strategy, and here clarity is a keyword. This is a good help for everyone, and a special plus for people with psychosocial disabilities. The signs use both colours and raised letters, which can be read with the fingers, so there are more ways to navigate.

● Many of the details in the house are quite small, but of great importance. One such thing is the small metal studs, which are half inserted in the wooden handrail by the stairs and in the connection to the office wings. One stud means first floor, two studs tell you that you are on the second floor, and three studs mean third floor. The small metal studs are also a fine decorative element.





- Replacing the air inside the building 2.5 times as often as in an ordinary office building ensures an optimal indoor climate with efficient ventilation, where pollen and diesel particles from the nearby railway are vented out. This is good for everyone and especially important for employees with allergies or asthma.



- It goes without saying that one common layout of all toilets does not create equality. Different user needs have thus resulted in no less than seven different types of toilets distributed around the house, so that everyone can find one that they can use. Pictograms on the doors show how the toilet are equipped and designed. This example proves that different user needs can be met by different solutions, either by designing one solution for all or by providing solutions for all.

- The electric sockets are easy to find, being black on bright walls or white on coloured walls.





- The building contains three fireproof zones, with the world's first equal evacuation system. The fire doors are fitted with motors, which make them easier to open and ensures that wheelchair users and people with walking impairments can lead themselves to safety. The fireproof zones are pressurised, which keeps smoke out of the room so that people can stay safe for up to an hour inside the zone. Fire drills have shown that the 300 employees in the house, of which 20 per cent are wheelchair users, can be evacuated within six minutes.



- Telecoils are an important solution for people with a hearing impairment. Telecoils are available at the reception desk, in the lifts and in all meeting rooms.

- The door handles are custom-designed and made of plastic, which means that they are not cold to touch. They only require low operating power, which is important for users with arthritis.



The Building as a Workplace

User experience of the house

Since the inauguration in December 2012, the House of Disabled People's Organisations has provided a framework for the daily working life of 300 people. The question is whether the effort to create an equal workplace in every way has been a success? The short answer to this is yes. Many things are a success and the users are generally happy with the house, just as they generally find the house to be accessible and equal. But not all things work as well as hoped.

This conclusion is based on a thorough evaluation of the process behind the realisation and of the users' experiences. The evaluation was carried out by the Danish Building Research Institute in 2016. Among other things, it appears that the atrium is a space that everyone likes. This applies to the daylight, which everyone finds is a great quality, and to the acoustics, which, despite the size of the atrium, are perceived as pleasant and not hard.

The office units are generally regarded as well-functioning, while the open-plan offices at the end of the wings are perceived as problematic, because they are located in direct connection with the corridors. All offices have daylight, which on the one





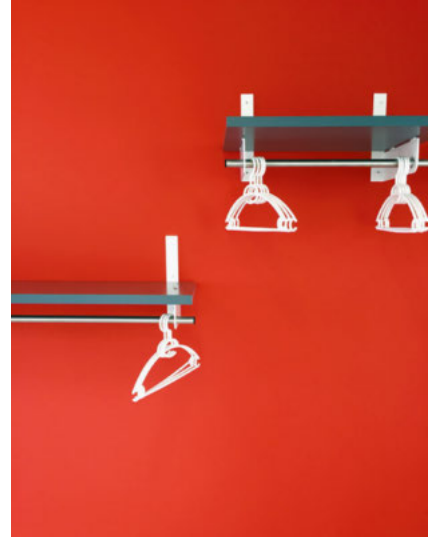


hand is good, but on the other hand emphasises the need to be able to adapt both light and heat individually.

The corridors in the meeting centre can be difficult to navigate for people with visual impairments.

However, the strongest criticism relates to the canteen, where people

with visual impairments may find it difficult to navigate and be self-reliant. Furthermore, the counter itself is deep and the tray slider can prevent some wheelchair users from reaching across the buffet. An even bigger problem is the hard acoustics, which make it difficult and very tiring for some users to have a conversation.







Learning and changing

Disabled People's Organisations Denmark will use the acquired user experiences to, among other things, change the flow through the canteen, because that will improve the general accessibility for the benefit of everyone.

Furthermore, the House of Disabled People's Organisations will act as a test centre for various building designs and technological solutions. One example is the wayfinding system, I-Beacon, which acts as a kind of Street View, but in an indoor version. The system sends signals to a smartphone about your location in the house, telling you that there are, for instance, seven steps to the nearest staircase or toilet.



Dynamic laboratory with exemplary value

It was never the plan that the house should provide a static image of accessible solutions, dated 2012. Rather, the building will carry on being a laboratory where changes are constantly being made and new solutions developed as knowledge and new experiences are gained. In this way, the house will continue to have exemplary value in future, partly because the experience gained can be replicated in similar building projects. Partly in a wider social perspective, by pointing out that there is socio-economic value in designing urban spaces, buildings and landscapes by means of universal design and from an inclusive architectural perspective.

Disabled People's Organisations Denmark work to ensure that people with disabilities can live a life like



everyone else. People with disabilities should be able to participate, contribute and be part of the community. In other words, it is common sense and a great plus to society if no people are isolated in their homes due to physical barriers in buildings and cities. That way everyone can work and participate in society on equal terms.

You can take a virtual tour around the house before your visit. Learn more here:
www.handicap.dk/huset
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STAKEHOLDERS

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Turnkey Contractor: NCC

Advisers: CUBO Arkitekter, Force4 Arkitekter, NIRAS, Møller & Grønborg

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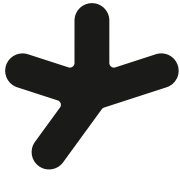
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Core Values
Realisation
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Perspectives

