

Aalto University Undergraduate Centre. Protected Alvar Aalto building awarded for accessibility after renovation

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Abstract. The main building of the former Helsinki University of Technology (TKK) designed by Alvar Aalto is part of the cultural heritage in Finland. The building underwent a major renovation in 2011–2015 and has now become an awarded Undergraduate Centre for the modern interdisciplinary education of Aalto University. This paper presents how the architectural masterpiece from the 1960's was renovated and updated into a modern and accessible university building. Particular attention was paid for entering the building by wheelchairs, prams and pushchairs. The successful renovation was awarded in 2015 by the 'Esteetön Suomi -palkinto' (Accessible Finland Award), given every two years as a mark of recognition to activities or locations implementing the principles of accessibility and universal design for all on a broad scale and in a nationally significant way.

Keywords. Accessibility, enabling environment, heritage, inclusion, renovation



Figure 1. Undergraduate Centre 2015. Aalto University/Tuomas Uusheimo.

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1. The renovation project: Activity towards equity, economy and efficiency

The Main Building of the former Helsinki University of Technology (TKK) designed by Alvar Aalto [1] is part of the cultural heritage in Finland [2] and the history of international modern architecture [3][4]. The building inaugurated in 1966 underwent a major renovation in 2011–2015. In 2015, it became an awarded Undergraduate Centre for the interdisciplinary education of Aalto University [5]. The '*Esteetön Suomi - palkinto*' (Accessible Finland Award) is given every two years as a mark of recognition to activities or locations implementing the principles of accessibility and national importance [6]. The successful renovation project updated an architectural masterpiece into an enabling learning environment [7][8]. The Activity Theory [9][10], communities of practice [11] and collaborative knowledge construction [12][13] are the frameworks to justify how the renovation work continues in maintenance for improved accessibility and inclusive education [14][15].

Campus environments can either disable and exclude people or foster their full participation and inclusion in studies, research and social life. Thus particular attention was paid for entering the Undergraduate Centre by wheelchairs, prams and pushchairs. The main challenges in the renovation were the post-war design views and practices. Although Alvar Aalto had been flexible with changing requirements [16], financing and policy concerning higher education, the time was different: Students were mainly male and even the very idea of students with disability seem to have been absurd in the 1950s. Thus the Undergraduate Centre, full of stairs, was a disabling environment for many people. The renovation was successful due to shared principles. Aalto University, Aalto Campus and Real Estate (ACRE) Ltd, Architects NRT Ltd and NCC Ltd as the chief contractor ran the project and agreed the following precepts: accessibility initiatives need to be taken into account by addressing affordability, the availability of technology and knowledge sharing [17]. Solutions that work in technologically sophisticated environments and new constructions may generally be ineffective in a listed building. Hence the strategy for accessibility was incremental improvement and initial efforts focused on removing basic barriers. An accessibility audit preceded the renovation planning. During the planning phase of the renovation project, faculty, staff and students were invited into the process and the Espoo Council on Disability was consulted. Once the strategy for an enabling environment was ingrained and knowledge constructed, it was easier to raise standards and attain a higher level of universal design. The basic improvement of accessibility contributes to the creation of an enabling campus environment; it benefits not only people with disabilities but all community [18]. Easy access creates a human-based image, gives positive user experience and firsthand knowledge about the benefits of universal design in practice. This in turn diminishes possible negative attitudes. Therefore, according to our experiences, the prerequisites for an enabling campus environment are 1) the shared culture of accessibility; 2) the effective enforcement of laws and regulations; and 3) communication to share tacit knowledge.

2. Adapting to Alvar Aalto's architecture

During the construction work of the Main Building at the 1960s, many changes to the drawings were needed [19][20]. Financial thrust, altering guidelines from the client and trouble at the construction site were reasons why Alvar Aalto was asked to make

changes to the original plans. Similar challenges occurred during the renovation. However, the iconic value of Aalto's work was the core of the renovation. Aalto was a master solving unexpected changes and was open to change original plans by inventing new solutions, turning a trouble to a victory. For example, a too big ventilation shaft was covered by a curving wooden grill as if it was planned to be that way originally. During decades, these spontaneously solved details turned into valuable building heritage that may not be changed. That means that new changes have to be different; they have to hide and leave Aalto's contributions visible. In the renovation work, spaces were modified differently in different parts of the building. In the most valuable parts (the General Department and the Department of Architecture) only minor changes were executed. In the U-wing which was completed later in 1975, much larger changes were possible: The whole segments of work rooms were transformed into open flexible working spaces and some auditoriums were modified by replacing fixed seats with chairs and tables. However, the most difficult task was to fit in the HVAC-systems and making the building accessible. Thus some small work rooms were turned into technical spaces in order to prevent additions to the appearance of the building. Accessibility issues needed hours of planning and innovating. For example, the stage of the Aalto Hall was not wheelchair accessible. After many plan variations, a new tunnel route was dug behind the auditorium walls directly from the main lobby to the stage. Since the tunnel was a totally new element in the building, it has been possible to design with new architecture: There was no need to perfectly adapt to Aalto's architecture. On the contrary, the situation was different in the design of new seats for spectators with disabilities in the same auditorium. They were designed to hide well in existing seat rows so, that the atmosphere of the Aalto Hall would have as little disturbance as possible. Not only one type of new architectural language was used. All situations were separately considered and the suitable diction of architecture selected. In some cases, new additions are very close to the original design. In some other parts, the renovating architect's own design can be seen more clearly. Perhaps, have the architects of the renovation succeeded if a visitor does not notice the difference?

It is essential how the diverse users experience the campus as an equal and enabling environment. In this case, it was noticed rather quickly after the renovation that an accessible Undergraduate Centre has benefits for a broader range of people. For example, curb cuts (ramps), automatic door openers and stair lifts assist parents pushing baby strollers, suppliers and restaurateurs. In addition, clear information and signposts help non-Finnish speakers and people with learning disorders. Clearly, the integral planning of accessibility, the availability of information and implemented practices enhance inclusion [21]. Aalto University and Aalto CRE have a clear goal for enabling campus environment: The integrated architecture and real estate management are the foundations for success in inclusive teaching and learning as exposed in the implementation plan for accessible learning, university strategy and equality – all based on the Finnish legislation. However, the continuing iteration of the plans amongst user communities seems to be essential as well. The main challenge is to encourage and empower students – the most important user group – by collaborative renovation practices [22]. Therefore, we suggest challenging the community to agile and participatory co-design methods [23].

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