Medium rise timber office building in low-to-no carbon emissions district, Helsinki, Finland

**Project data**

**Project group**
Building and civil engineering works

**Client**
Sitra

**Project background**
Public commission

**Estimated start of construction**
January 2012

**Main author**

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**Comment of the Holcim Awards jury Europe**

In terms of its construction and program, the office building is commended by the jury for achieving the aspired principles of transformation, transparency and inventiveness. All of the construction, even the cores and the profile facade panels will be entirely in Finnish timber — globally an innovation for a 21st-century office building. Beyond these measures, the project has a successful holistic approach towards its design, connecting social, ecological, aesthetic and economical demands on a high level and it is thus an outstanding example of how sustainable architecture can be achieved on a larger scale.

**Project description by author**

With its new headquarters, Sitra, the Finnish innovation fund, will anchor the new (owalo)quarter in Helsinki. Part of the redevelopment of the former Iltakasari docksland to a "low-to-no" carbon emissions district, Sitra explores the combined potential for the most energy efficient building technologies and behavioural change, to drive a thriving, sustainable society. These principles are founded on an architecture of transparency, inventiveness and inventiveness. Structurally the new building will be entirely in Finnish timber. At six overground storeys, and with even the cores in timber, it will be the tallest and most complex in the world. At the façade we will build of prefabricated insulated timber sandwich elements. Timber construction is presently seldom used above a domestic scale, but as one of the most sustainable methods available (in Finland particularly) there is much to be gained from developing systems for larger structures. With some local knowledge and a developed industry already in place, the Sitra Headquarters seeks to provide a replicable example of how industrialized all-timber construction can serve sustainable architecture on a larger scale. The propagation of this systematic and political change is already underway, with the design process tracking a large portion of the latest development in timber and timber construction. Sitra is to be the proof of its viability for future schemes. This didactic and empirical spirit is also supported in the programme: civic amenities, including an auditorium, library and cafe, bring public circulation throughout, thereby obviating the insularity often seen in office architecture. The higher floors also include "incubators" — affordable high-profile office space for start-up businesses and Sitra-funded programme offices, further driving the economic well-being of the area. A terraced volumetry and a central atrium bring daylight and natural ventilation to each of the two workspaces. Planting across all stepped levels associates the Sitra building with prominent green areas throughout. Low-no and the large public park beyond. The timber structure is visible within the office spaces, contributing to the architectural and atmospheric quality. The intricacies of a large timber structure, particularly fireproofing, density and vibration have been resolved into replicable and versatile systems. The Sitra Headquarters at Iowanö represents a step forward for the union of advanced sustainability technologies and conscious architecture to achieve the lowest environmental impact without compromising spatial quality and beauty.

**Relevance to target issues by author**

**Innovation and transferability – Progress**
The Sitra Headquarters at Iowanö is significantly contributing to the current knowledge in the field of tall timber architecture at six overground storeys, with even the cores in timber, it will be the tallest and most complex in the world. It is designed in accordance with the EU Energy Performance of Buildings Directive that will be enacted in 2020. Success is hoped to foster a widespread adoption of all-timber construction for sustainable, high quality architecture on an industrial scale.

**Ethical standards and social equity – People**
Sitra’s function as a government body, as well as the empirical and didactic ethos of this project, has made transparency and inventiveness key themes. Organisationally, the plan is non-hierarchical and outsourced, a highly integrated public programme including an auditorium and a library allows open access throughout the building. Finland’s advanced timber industry makes it a very equitable choice for larger projects. Local skills and sources render it among the safest, healthiest and most economical available. The design also supports Sitra in a change process: they see their current space (many floors, individual offices) as an obstacle to change and want a new design (open grid) to support their evolution.

**Environmental quality and resource efficiency – Planet**
The new building's energy concept reduces the weighted energy use to 49.6 kWh/m² a year, less than half the Finnish requirement for heating and cooling. Mixed-mode, water based heating and cooling, including air handling units powered by a ground source heat pump are complemented by a rooftop PV array configured for maximum efficiency. The design is significantly contributory in terms of providing a vital impulse to the area's development. Sitra's function as a government body, as well as the empirical and didactic ethos of this project, has made transparency and inventiveness key themes. Organisationally, the plan is non-hierarchical and outsourced, a highly integrated public programme including an auditorium and a library allows open access throughout the building. Finland's advanced timber industry makes it a very equitable choice for larger projects. Local skills and sources render it among the safest, healthiest and most economical available. The design also supports Sitra in a change process: they see their current space (many floors, individual offices) as an obstacle to change and want a new design (open grid) to support their evolution.