



City of Lund

Kunskapsstråket – The Science Road

The Science Road is a four kilometers long corridor which stretches from the historical city center of Lund all the way to the new city district of Brunnshög, a new center for research and high-technology in north-east Lund. Around 55 000 people work and study in the Science Road area - the largest knowledge-based workplace in the region.

The corridor which makes up The Science Road is a development area for sustainable urban development. The project includes renovation of historical environments, innovative energy solutions, densification of the university campus, sustainable mobility focusing on people's needs, a green city and a new sustainable meeting place. The Science Road ties together the historic city center of Lund with the unique research and business opportunities in the northeast of the city. The Science Road is to be green, sustainable and accessible to a greater number of people – few are aware of the internationally unique research hidden behind those walls. All measures will be linked by a new tram line together with attractive pedestrian and bicycle paths. Thanks to the support of 48 million SEK from the governmental Delegation for Sustainable Cities, a total investment of 160 million SEK is made possible.



Map of the Science Road. Current Science Road areas (orange), planned tram line (red) and development projects (grey).

Collaboration is the key

Thanks to this project, many actors along the Science Road have begun to collaborate. The nationally owned real estate company, Akademiska Hus, has built and created inviting university environments. The green area by the lake Sjön has been made more accessible. Some of the sustainable solutions are invisible, such as underground energy storage. Others can be seen from far away – the large photovoltaic facility on top of the Mechanical Engineering building at the Faculty of Engineering at Lund University is hard to miss.

The project is an important driver of the sustainable urban development of Lund. Broad collaboration within the project and with other stakeholders is important for the project's success. Through seminars, workshops and study visits a large audience can share the experiences from the project. The plan is not to finish the work when the project time ends, but to develop new ideas and collaborations that will continue the work for a sustainable urban development of Lund.

A new way of working with sustainability in cultural environments

In Lund, there are many renowned buildings of historical value – Lund University's main building, the Lund University Historical Museum, the Archaeology Institute of Lund University, the Palaestra building and the oldest building of the university called Kungshuset (the King's House).

Transforming these environments into modern spaces requires particular care. For this reason, the National Property Board of Sweden has tested a new working method to adapt these buildings to modern requirements regarding a better indoor environment, accessibility and reduced energy consumption.

First, a basic investigation is conducted based on the condition of the historical building. What use and design is suitable for the house in question? This is then discussed with the tenant, in this case the university, to find an appropriate use for the premises.

Thereafter, a renovation proposal is drawn up. Already from the start, at the same time as hiring an architect, an energy expert is also brought into the project. This means that mistakes that may be difficult to rectify can be avoided, for example by ensuring enough space for technical installations.

Another key to success is to initiate a dialogue with the Swedish National Heritage Board at an early stage with regard to what measures are possible and necessary.

The working method implemented in Lund has generated a lot of interest, and has spread to all property managers at the National Property Board of Sweden.

Innovative lighting design gives an inspiring study environment

In the 1960s, the architect Klas Anshelm designed several buildings for the Faculty of Engineering at Lund University. Now their indoor environments have been updated to a modern, energy-efficient study environment, where lighting plays a leading role.

In Lund, there are several Klas Anshelm buildings, and one of his major projects was the Faculty of Engineering. Today, three times as many people work in the buildings than what they were originally designed for. The premises are in great need of adaptation into modern study environments with a good indoor climate and energy performance levels.

Comprehensive lighting concept

One area where there are great opportunities to create a better study environment while also saving energy is the indoor lighting. In one of the buildings, the Annex, the real estate company Akademiska Hus has carried out a pilot project. Based on research conducted at Lund University, innovative lighting designs have been applied to achieve varied and energy-saving light features.

In consultation with an electrician consultant, tenants and property owners, a light designer has adapted the lighting to various activities. The lighting concept spans the lobby, café, library, quiet reading halls, practice rooms, new reading nooks and the corridors.

Functional study light

The result is a creative and stimulating study environment where conscious lighting choices have been made to enhance the space. In all reading rooms, the ambition has been to define the room using wall washers, and to create a good, glare-free reading light from the ceiling fixtures.

The café has been given a more intimate and homey atmosphere using a seemingly random suspension of dimmable pendant light fixtures in warm color temperatures, wall washers and downlights. In the library, a combination of linear lighting fixtures set into the ceiling and asymmetrical accent lighting on the shelf systems create a sense of space, while the reading chairs have been given spotlights.

Daylight sensors and presence detectors

The new technology is controlled by daylight, presence and time. Together with efficient fixtures using LED technology, this means increased energy efficiency. The output of the lighting is only a third of what it would have been if LED technology had not been used. These measures have set the tone for subsequent renovations by the real estate company.