# Jakob Strømann-Andersen: Design with impact!

Jakob Strømann-Andersen, as Partner and Head of Henning Larsen’s Sustainability Engineering Department, gave an inspiring speech at the Swegon Air Academy seminar in Saint-Petersburg in February 2020 about design with impact and looking at the healthy buildings of the future. Jakob is one of the youngest architects to become the Head of Henning Larsen. This architectural company is highly specialized in architecture, landscape design, engineering, interior and graphic design and consultancy, as they aim to shape the life of tomorrow.

Jakob also manages Henning Larsen’s industrial program, which focuses on integrated acoustics simulations, lighting design in learning environments, design for disassembly of facades, and anthropological studies focusing on knowledge sharing in everyday spaces.

## Healthy buildings of the future!

Jakob introduced the goals of the company to be driven by ideas from all around – people and architecture, to communicate and not use defined aesthetics, but to be bold and focus on knowledge-based design and design that provides the knowledge. We will learn about the architecture and impact of all the fantastic buildings around the world. Besides, Jakob also stated an interesting fact about architecture: *„You should not have to buy a ticket to experience architecture.“*

There are many magnificent buildings around the world, and Jakob said: *„By 2050, 68% of the world´s population will live in the cities. To keep up, we must build a new city for 1,5 million people every week. And this is a time of complex changes.“*

## Architects must be open to changes!

Jakob nicely described the development of architects in time: in the past, the architect was a master of sketching – he came up with all the architectural ideas. And today, the architect must be a conductor – he leads the orchestra of design, energy and health in buildings.

Buildings ideas could come from anyone, and architects must be open to the changes. The architecture must focus on climate changes in time – design buildings for people and for the future.

*„Architecture is fundamentally about human interaction.“* Jakob insisted that we now need to design places where people can meet, feel good and be productive. *„Now the money is on the people, and less on energy efficiency and indoor air quality. If the building is unoccupied, it is waste. Indoor Air Quality (IAQ) is well defined now, but we need to look at how we work with a more dynamic IAQ.“*

## Case studies: Combining knowledge, new way of learning and understanding behaviour!

Jakob introduced several buildings, such as the Siemens Headquarters in Munich, Germany, where the ground floor of the building is open to the public for all people to explore (open courtyards and green spaces) and the goal is to get sunlight into the courtyards and daylight further into the building. Three design strategies are introduced: discreet facades towards the protected historical part of the buildings, elegant and adaptable to neighbouring buildings, and significant and modern towards heavy traffic. Efforts are also devoted to all HVAC equipment and photovoltaic systems on the roofs being nicely laid in an organized style. The commissioning process and post-occupancy survey through social media were important parts of the evaluation to achieve good results and impact.

Jakob´s statement was to focus on inputs and outputs in architecture. *„With input, these are the questions we ask – dreams, visions, goals, data and measurements… And the effect we can create – effects on individuals, culture/city and the environment.“*

Five of PhD researchers work with Jakob to explore artificial lighting, façade design, data collections, cultural analysis, and acoustics. At Uppsala City Hall, the goal was to combine virtual acoustics with a combination of technologies from another industry – wave technology from marine/offshore CFD simulations with the gaming industry with interactive players with gaming glasses. Jakob concluded this case study by claiming: *„We need to look into partnerships within building industry and with the potentials from other industries.“*

Another case study was the Frederiksbjerg School in the city centre of Aarhus, Denmark, with a new way of learning: traditional lecture-based compared to collaborative group work. At this school, the workgroup design was a key element, where students could sit on window sills, enjoy the view outside and be stimulated by daylight. The research focused on how normal light can be challenged by using focused and mood lighting instead. The results show that with focused and mood lighting, the children would start their daily task more quickly and noise would also decrease. Students were calmer, more comfortable and more efficient.

A critical element for the Carl H. Lindner College of Business in Ohio, USA, was to understand the social elements of students in America because students feel a high degree of loneliness and 1/3 of lonely millennials are twice as likely to experience depression. The Scandinavian way of designing schools is focused on open spaces and inclusivity (anonymous, equality and no diversity in Denmark) had to be completely changed to include a new concept of several open spaces that would include students´ lifestyles (recognition, culture and diversity in the USA).

The architectural design of the new school focused on the inclusion of unused spaces such as corridors and defined them as workplaces/offices. Wider hallways are now used for sitting, studying and interacting. Moreover, it also saves money because corridors are not defined spaces in the USA and therefore cost a lot of money. Transforming circulation spaces into social interaction spaces, understanding people´s behaviour and building use have led to great results.

## Shape our buildings, and they will shape us!

Jakob finished the presentation with a quote from Winston Churchill: *„We shape our buildings, and afterwards, our buildings shape us.“* We need to think about architecture and how to apply it because it will lead to better health in the buildings.