Transformative Computational Design Thinking for Sustainable Future Cities

**Project title:** Transformative Computational Design Thinking for Sustainable Future Cities

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Sustainability is one of the grand challenges we as society are facing. Within the field of architectural education and research we are asked to envision a meaningful and future-oriented strategy and digitalization plays an important role in the development of such a strategy. Digitalization is not only one of the main drivers of technological development in contemporary society but also considered as one of the key technologies in the transformation towards a more sustainable future. Universities are of importance in the creation of the required knowledge and as regional hub within a network of transformative sustainable innovation. This fosters a need for change in the training of doctoral researchers and of the organization of doctoral research itself resulting in the establishing of doctoral schools at many universities around the world. Finnish Universities, however, are not big enough to offer such specialized doctoral programs due limited resources. The current project aims at overcoming such limitation by pooling the strength of partner universities together on the level of doctoral education.

**Partners**

Singapore University of Technology and Design (SUTD)

This project proposes the establishing of a joint education of doctoral researcher in the field of Computational Design in architecture between Aalto University and Singapore University of Technology and Design (SUTD). Both universities have been established around 10 years ago with a similar focus on the intersection of art, science and technology. In 2019 they have signed a partner agreement with the aim of establishing strategic collaboration in teaching and research. Up to this point, the collaboration has been focusing primarily on joint MA teaching activities and the establishing of exchange possibilities. The proposed joint education on doctoral level would function as pilot and be the first of its kind with focus on research, intended to be continued in a subsequent stage to other Asian partner
universities as well as to Finnish universities this way establishing a Finnish-Asian innovation network focused on the transformative sustainable development of our cities.

The proposed joint education of doctoral researchers aims at developing an international research collaboration – doctoral network, including a series of future-oriented skill-building courses and seminars that provide an interdisciplinary foundation for deepening research within individual doctoral research projects within the partner universities in the field of Computational Design. Centred around a core team of experts from both partner universities, the project will enable the building up of a knowledge centre on Computational Design in architecture as long-term goal. In addition, industry partners will be integrated into the network to allow for a smooth transfer of cutting-edge knowledge into applicable solutions.