

Construction Transformation

Background

The global society relies on our ability to construct buildings and infrastructure. Construction has been the key sector in creating the modern societies of developed countries, a position for which developing countries also rightfully strive. With continuing population growth and rapid urbanization, global needs for housing, schools, transport and energy infrastructure keep rising. However, current construction practices are inherently unsustainable and cannot be considered blueprints for the rise of the developing world. Recent simulations from the Stockholm Resilience Centre find that only bold transformative change will allow us to create a sustainable society beyond 2050 within a safe operating space of our planet's boundaries. This has significant implications for the construction sector.

We are on the verge of a new construction reality where two trends converge - the need for sustainability and new disruptive technologies that can transform the products, processes and organizations of construction.

Purpose

The purpose of this project is to provide building blocks to the transformation of the construction industry towards sustainability, leveraging developing digital capabilities. It represents one of the core challenges of our societies, and companies and research institutions in Denmark and the US are frontrunners in the field. The objective is to develop a research agenda for construction transformation in collaboration with leading research centers in the bay area P2SL Berkeley and CGSD Stanford.

Outcomes

Specific deliverables of the project will be translated into a wider range of outcomes to DTU, Berkeley, Stanford and our respective networks and societies. The outcomes, by which we want to evaluate the success of the project, are:

- A collective and coordinated research agenda on Construction Transformation, leveraging disruptive technologies to address urgent societal needs.
- Development of a global network on Construction Transformation between central stakeholders in the US and DK
- Support of a wide range of companies to navigate and shape the future of construction.
- Connecting the DTU ProjectLab (www.doing-projects.org) with Berkeley Project Production Systems Laboratory (P2SL) and Stanford Center for Global Sustainable Development (CGSD).
- Strengthened relations to the Lean Construction and Global Sustainability Community by participation in conferences and other activities.
- Development of partnership for continuous and executive educational activities.