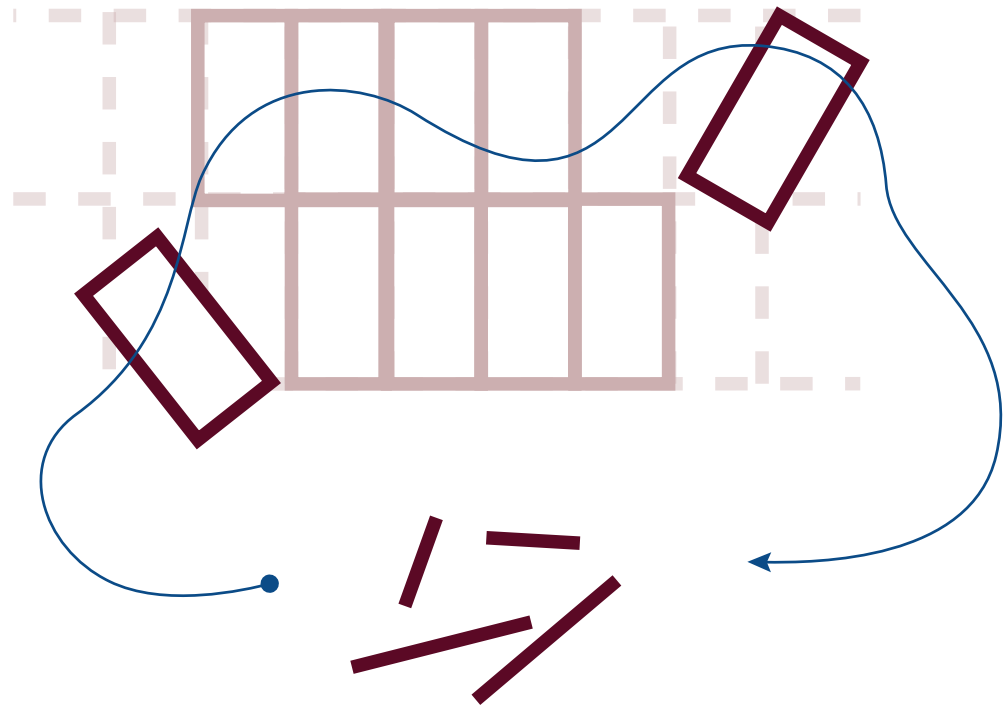


AIDA DAVALLOU

MODULAR HEALTHCARE

- Temporary healthcare facilities in wood



The thesis explores the use of wooden room modules for temporary healthcare facilities. Today, temporary healthcare facilities have a broad usage area; the typology is used when expanding hospitals, creating temporary wards, and forming self-standing hospitals. In the future, temporary healthcare facilities will also increase due to impending pandemics, climate change-related disasters, and renovations of old hospitals. This thesis aims to contribute to the development of temporary buildings for the healthcare sector.

The thesis investigates how room modules can be built to fit the needs of general wards and clinics and how they can be combined to create spaces that fulfill the healthcare sector's needs. The thesis also investigates how the modules can include circular processes and be designed for disassembly.

This thesis uses a qualitative approach in a comprehensive literature review investigating four subjects 1. temporary buildings 2. modular building systems 3. Sustainable buildings 4. Healthcare architecture. The study leads to a design exploration where the findings are tested in a concept development and a design

proposal.

The result of the project is a building system proposal for temporary healthcare facilities and a site-specific design proposal. The building system consists of prefabricated room modules in Cross-Laminated Timber (CLT) and proposes versatile room modules in three sizes to fit the needs of different projects. The room modules can either be used as they are or complement each other to form larger spaces. The building system is designed to be reusable and disassemblable. Finally, a design proposal is made that suggests how different room modules can be combined to create a temporary two-level ward and clinic unit for a hospital.

Keywords : Temporary healthcare facilities, circular design, Timber structure, Modular building, prefab

HEALTH CARE

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