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Studio			
Name / Theme	Sustainable building technology		
Teachers	Mentor 1	Ir. Joris Smits	Chair of Structural Design
	Mentor 2	Ir. Frank R. Schnater	Chair of Design of Construction
Argumentation of choice of the studio	Technical fascination of modular design in relation to sustainability		

Graduation project	
Title of graduation project	Zero waste industrial building system

Goal	
Location	Harnasch Polder - Den Hoorn
The posed problem	Current way of building and designing generates waste at the end of the life of a building and is not sustainable.
Research questions	How can a building be designed to produce no waste at the end of life?
Sub-questions	What are the functional requirements of a zero waste building system?
	What are the important factors in realisng a zero waste building system?
	How should a zero waste building system for an industrial building function?
	What are the important factors in a building's life cycle and what are the environmental impacts across their life-cycle phases?
	What is the current state of waste management in the building industry and what steps can be taken towards zero waste?
	How can demountability help achieve zero waste buildings?
	What is the role of prefabrication in the building industry and how can it add to creating zero waste buildings?
	How do current building certification methods measure zero waste and what measuring standards are used?
Design assignment in which these research questions result	The design of a zero waste building system suitable for industrial buildings
	The structural design of a zero waste building system
	The connections of a zero waste building system
	The integrated systems of a zero waste building system

Process Method description
Literature study
Definition of functional requirements
Conceptual plan design
Technical design
Scale modeling of critical details
3D model
(For more information see graduation report P2)

Literature and general practical preference
International Council for Research and Innovation in Building and Construction (CIB) publications
252 Overview of Deconstruction in Selected Countries
266 Deconstruction and Materials Reuse - Technology, Economic and Policy
272 Design for Deconstruction and Materials Reus
287 Deconstruction and Materials Reuse
300 Deconstruction and Materials Reuse - An International Overview
397 Barriers for Deconstruction and Reuse - Recycling of Construction Materials
Scientific articles and books about
Deconstruction
Demolition
Life cycle
Materials
Prefabrication
Recycling
Reference projects and systems
Office XX
Mini, Midi, Maxi system in combination with the Armilla Model
Sekisui Heim
Toyota Housing
Metsec Metframe
BSB system
Bestcon 30
CD20
MXB-5
Moducon-2000

Reflection Relevance
See introduction in graduation report P2 - Chapter 1

Time planning
See graduation time planning in graduation report P2 - Appendix 1