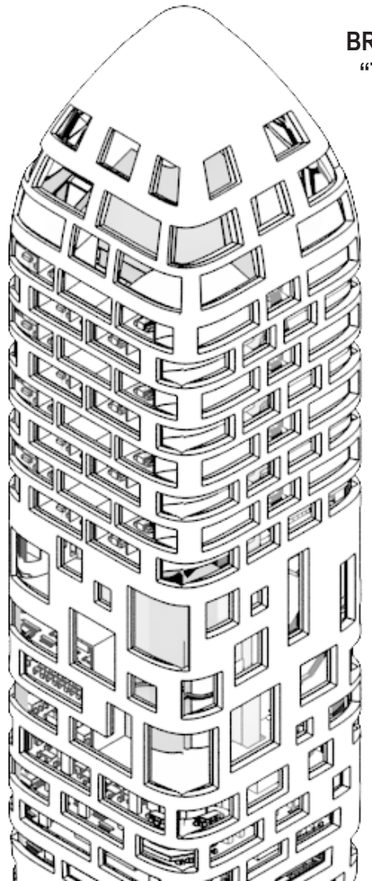
BRAM VAN CAUTER
“THIS SIDE UP?!”



Now a days the effects of global warming and sea level rise can been seen in devastating disasters around the world. During my graduation year (2007) I've studied the consequences of increased flood lines and researched the actions we will have to take to rethink the way we live, build an generate energy

Living in Belgium, a part of the world formally known as the Low Lands, we are extra vulnerable for the future effects of sea level rise. This project looks in to ways of building out in the open sea. Although ideas for floating buildings are not new, the attempts to step away form the safety of inner waters are scares.

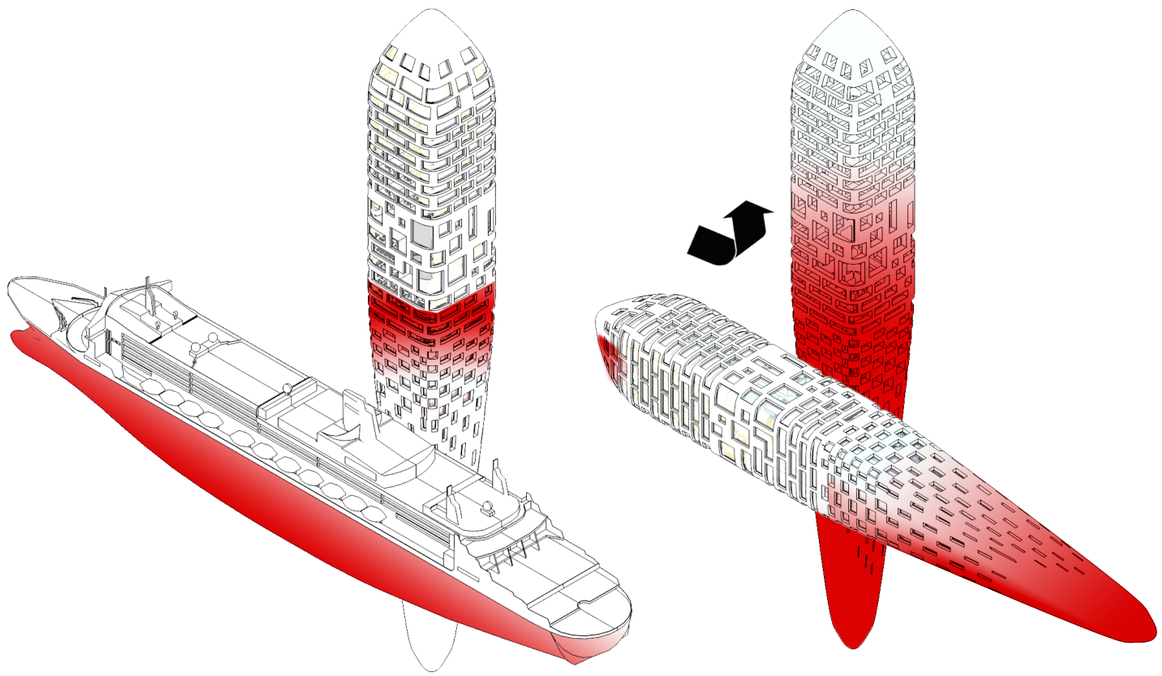
The challenges in designing a building for the open sea are summarized in this proposal. A floating university for Oceanography, a case study for future projects, a catalyst for further ideas.

Designed to survive a hundred-year wave, using stability techniques used in oil and research platforms; combined with the docking abilities of a modern ocean liner. The tower exists of a core, which fills up with sea water forcing the building to flip to vertical mode and submerging it for more then 55% in average wave conditions. The bottom heavy layout and minimal contact surface in vertical position makes the structure extremely stable. In case of extreme weather conditions the hollow skin can be used to temporarily submerge the tower up to 75% of it's volume to withstand to the most vast forces of the ocean.

Vertical floatation would allow the tower to ecologically coast along the existing ocean currents, the same way a hot air balloon uses wind directions to float over great distances. The university could host a team up to 140 participants. Allowing a mix of teams from universities across the world to take part in this project. The research facility would dock in mayor ports across the globe, functioning as a forum to raise awareness on the importance of our oceans and host lectures based on the data collected during the months at sea. The university is docked in horizontal mode. This horizontal layout is achieved by pumping the water out of the buildings core, a process that takes only 30 min. During this action, the teams take place in the conference room, which is designed as a turning tube, staying level at all time during the flipping process.

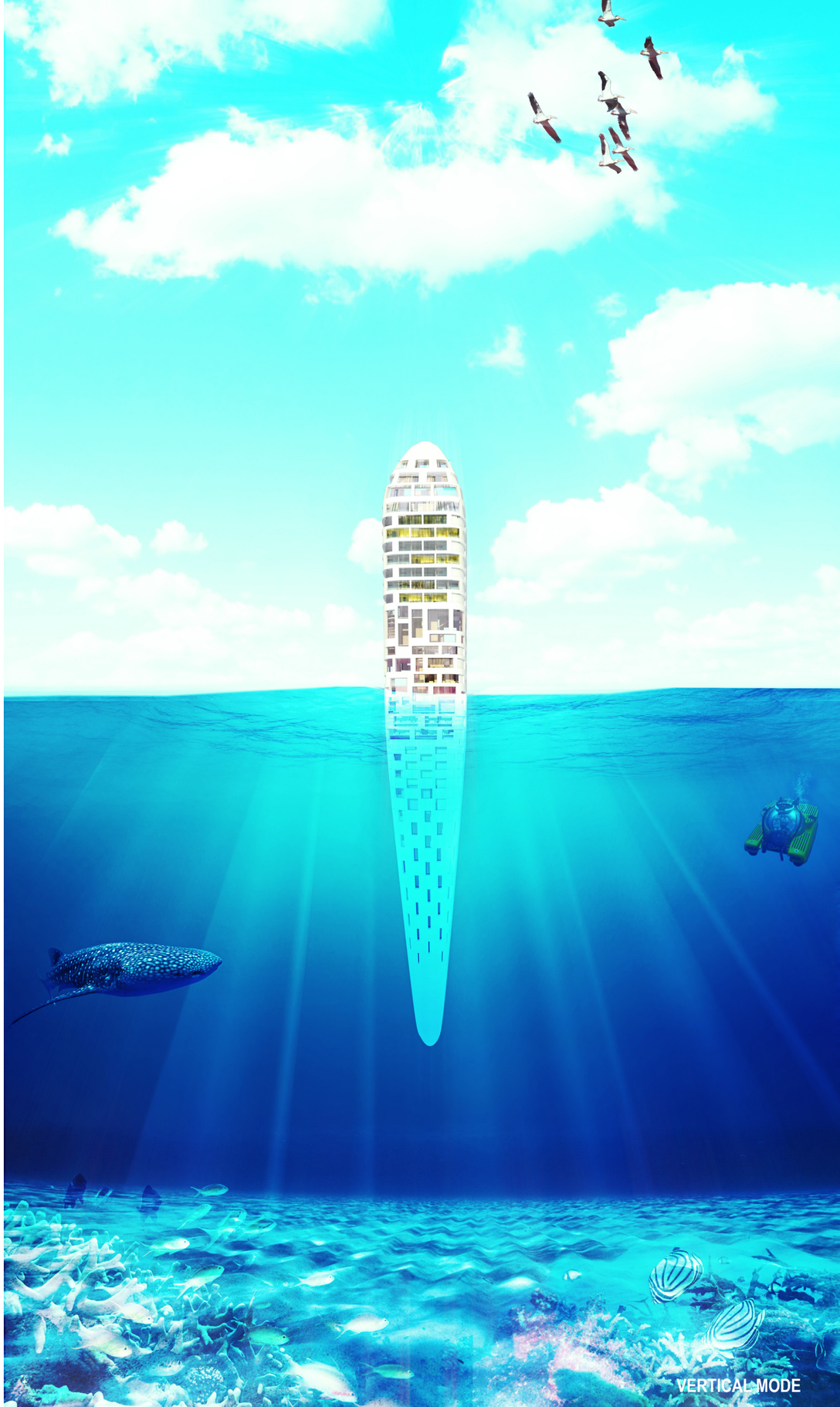
The entire building is constructed to be accessible in both modes, with fixed furniture in spaces without double use and the spaces for living + relaxation usable in both positions. When docked the apartments have a duplex layout, corresponding to the urban context of the city landscape, at open sea in vertical mode they are open plan with wide window bays accentuating the vast body of the ocean. Kitchen counters turn and all kitchenware is snugly secured in the silicone wall - Showers and toilets are based on the vacuum system in airplanes, allowing more flexibility, necessary due to the dual layout.

This project aims to expand knowledge on constructing and living at the open sea, organizing global awareness to preserve our oceans and study the seas from a mutual academic perspective. A case study in many ways a buoy to hold on to...

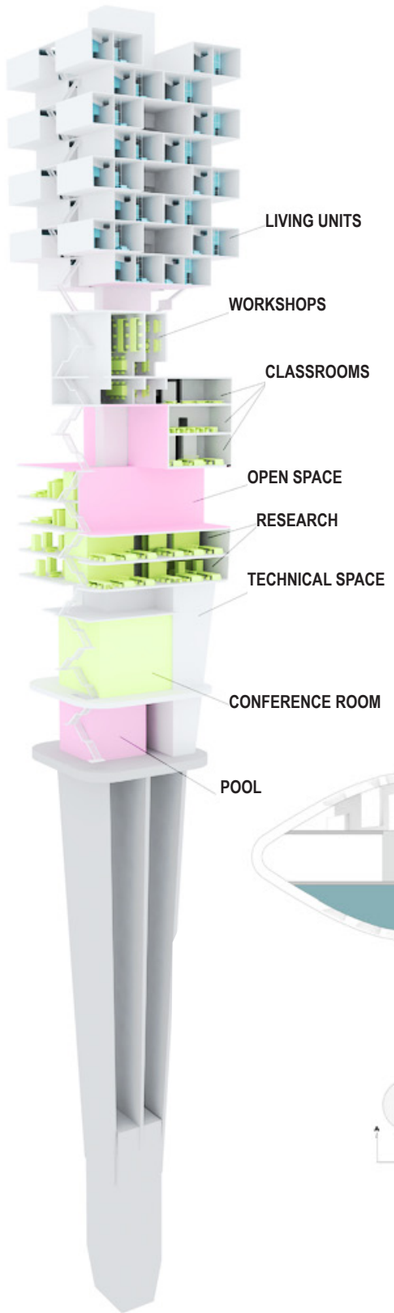


WAVE INFLUENCE SURFACE

WEIGHT DISTRIBUTION

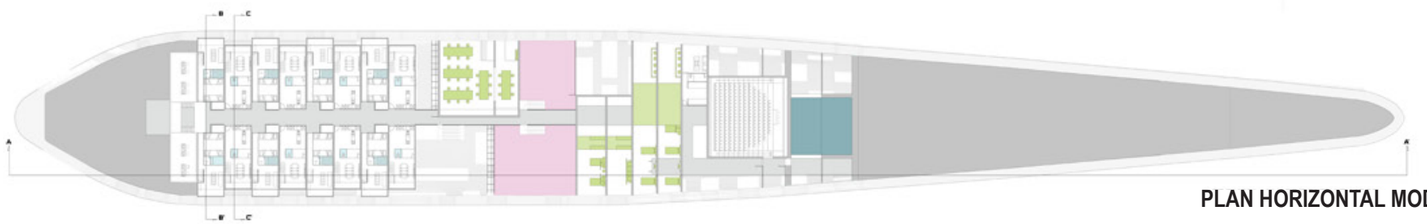


INTERIOR SPACES

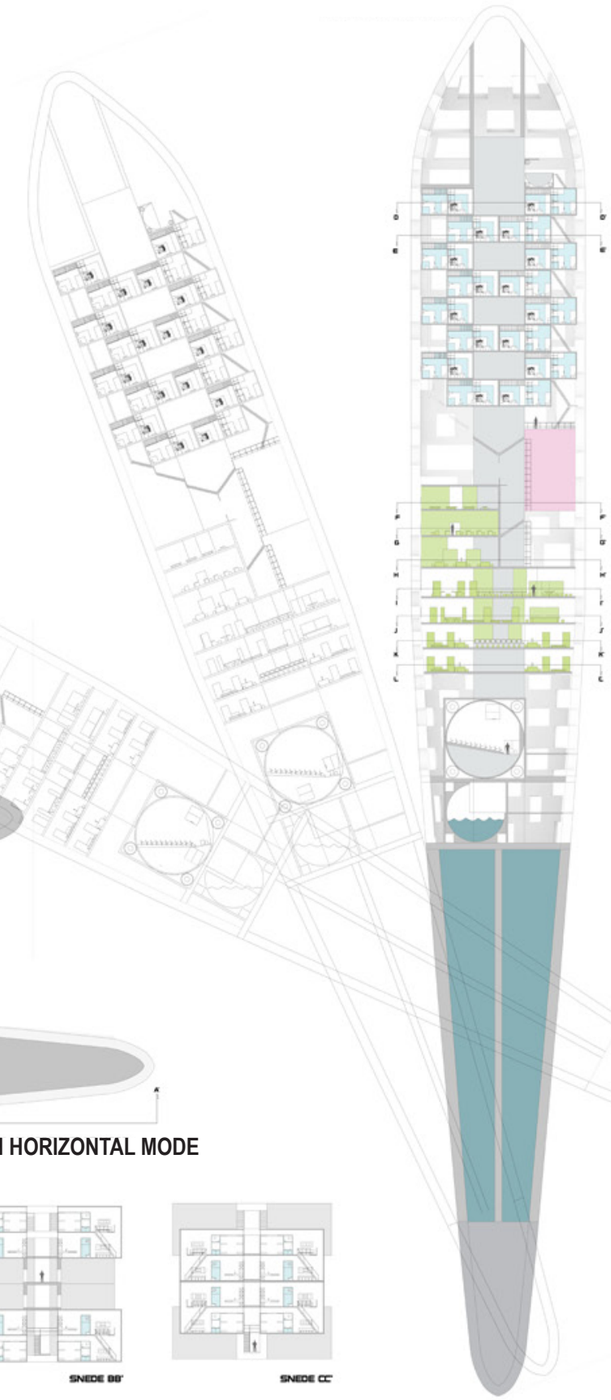


SECTION HORIZONTAL MODE

PLAN HORIZONTAL MODE



SECTION VERTICAL MODE

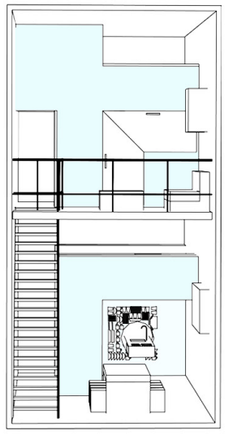


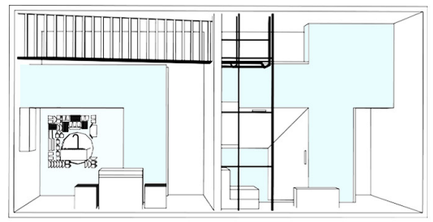
PLANS VERTICAL MODE
=
SECTIONS HORIZONTAL MODE

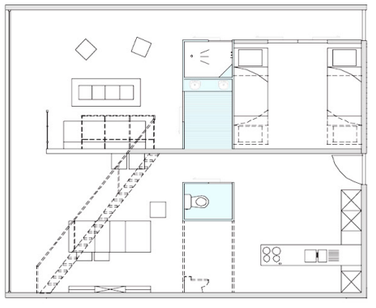
THE RESEARCH CENTER LEAVING CAPE TOWN PORT FOR RESEARCH ON THE SOUTHERN OCEAN

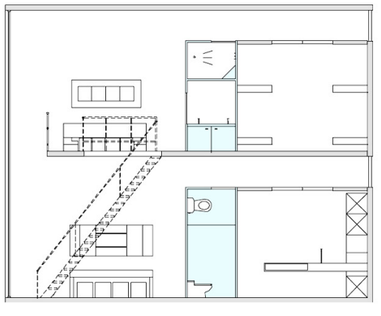
EXPLORING THE ARCTIC CIRCLE

VIEW FROM THE FLOATING TOWER'S LIVING UNIT IN VERTICAL MODE









ARRIVAL AT SYDNEY PORT AFTER 3 MONTHS OF EXPLORATION - DOCKING THE BUILDING WITH THE HELP OF PUSH BOATS

DOCKED AT THE HARBOUR THE BUILDING FUNCTIONS AS A TEMPORARY VENUE FOR LECTURES, WORKSHOPS AND CLASSES

ANOTHER JOURNEY AWAITS - READY TO STUDY THE ATLANTIC OCEANS

CARRIBEAN ADVENTURES