

# MULTI TUBE

headline for the project in lower case



The Multi Tube facade system is developed to create a comfortable indoor climate by encapsulating all installations in the facade providing diffuse lighting, diffuse ventilation and diffuse heating and cooling over the entire double curved surface.

The Multi Tube facade system is based on a triple layer design. The two outer layers are made of pvc tubes of which the verticals span the double curved surface and the horizontally twined tubes create the stiffness.

The twined tubes contain a liquid controlling the building physics. The tubes change direct sunlight into a uniform diffusely lit surface and control the temperature. The inner layer of etfe foil cushions controls the ventilation and provides insulation.

The tubes on the outside also work as a windbreaker and as a solar energy collector in which the liquid is used as a medium to transport and store the en-

ergy in the soil. At low temperatures the tubes are emptied and act as an extra insulation layer. The tubes on the inside also contain liquid which is preheated or –cooled and thereby control the temperature of the interior.

Fresh air is ventilated through the facade while controlled by the inner layer consisting of etfe foil cushions which allow air to pass when a mechanism slightly separates them. Mechanical ventilation is added between the cushions and the tubes layer on the inside to prevent draft and gain full control over the temperature.

TEAM: Jasper Moelker, Jasper Overkleef



project assignment

[http://www.studiegids.tudelft.nl/a101\\_displayCourse.do?course\\_id=4130](http://www.studiegids.tudelft.nl/a101_displayCourse.do?course_id=4130)

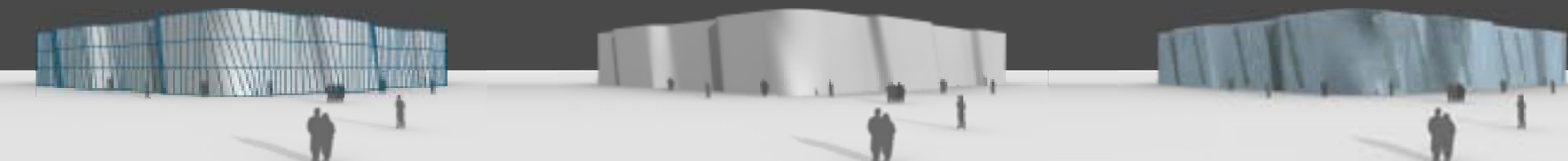
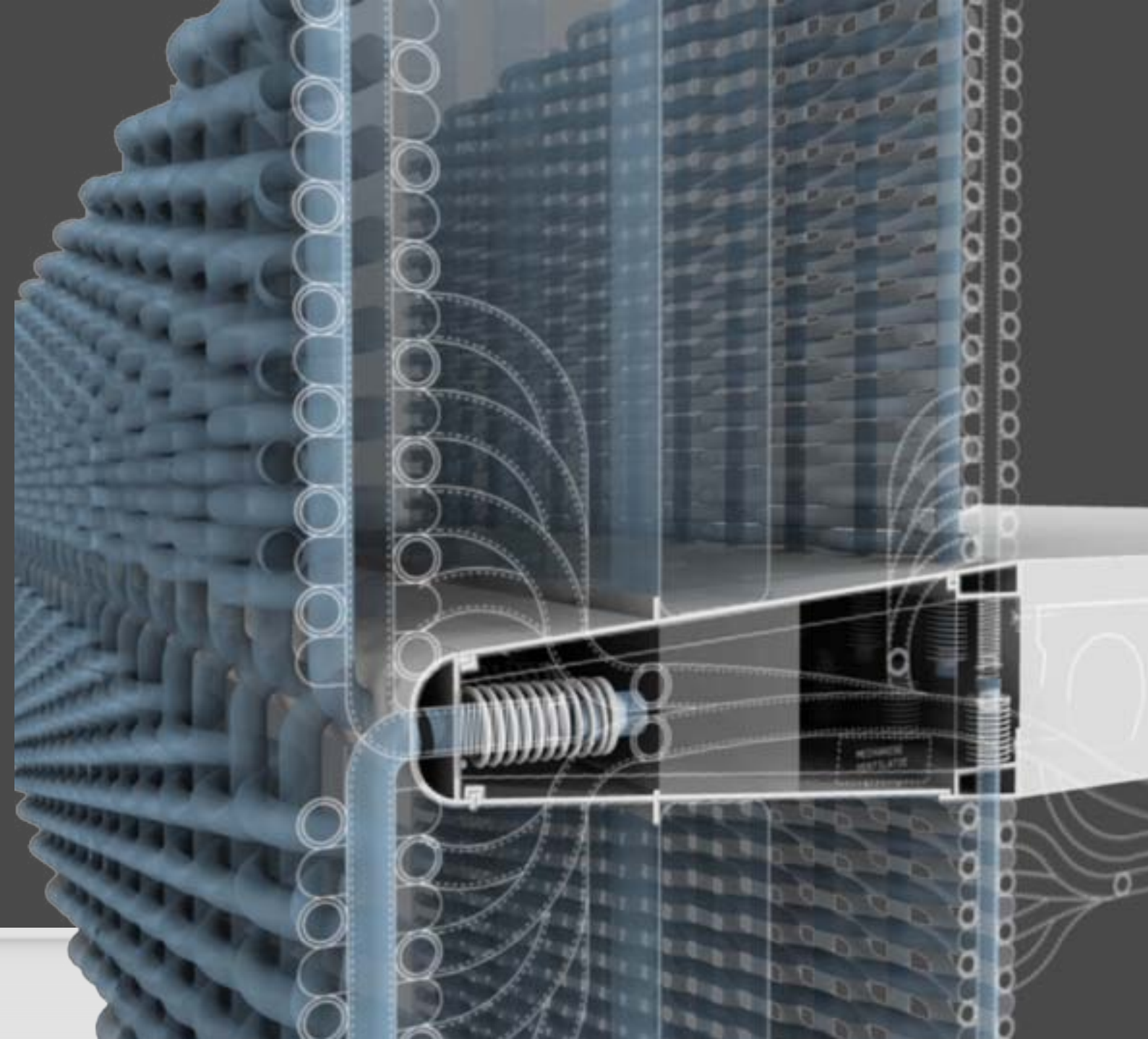
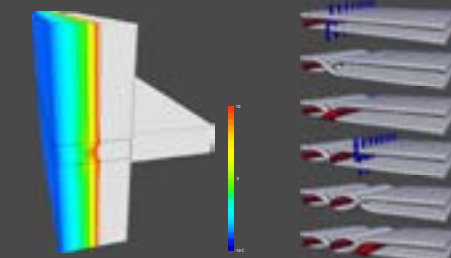
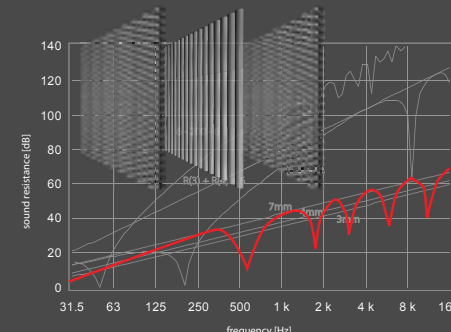
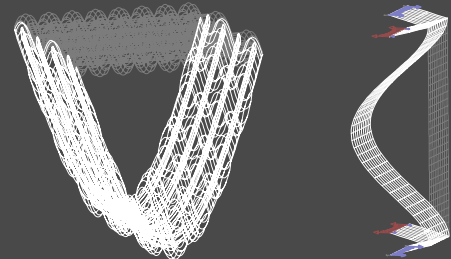
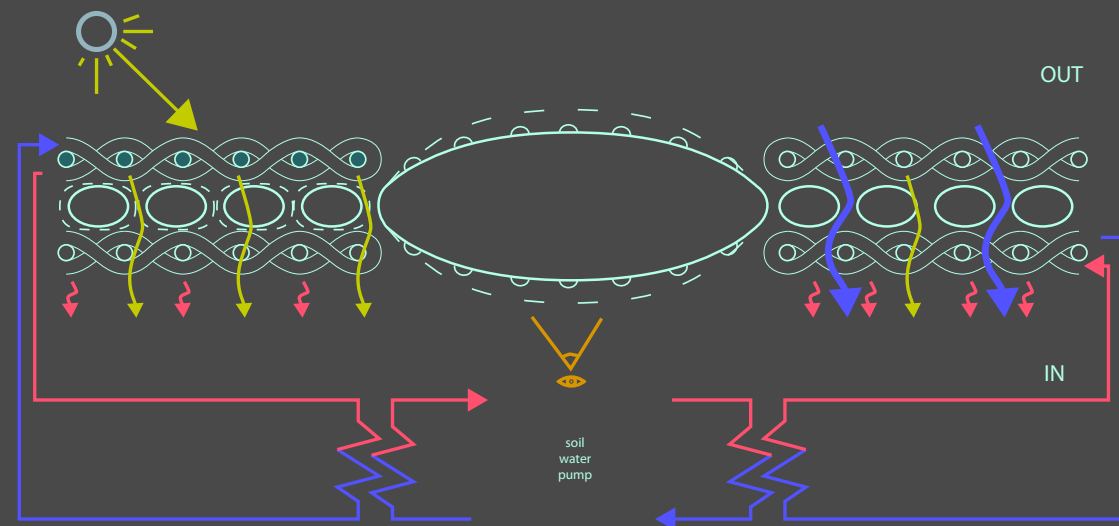
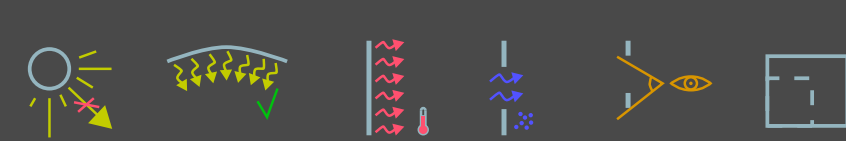


presentation slides

← more

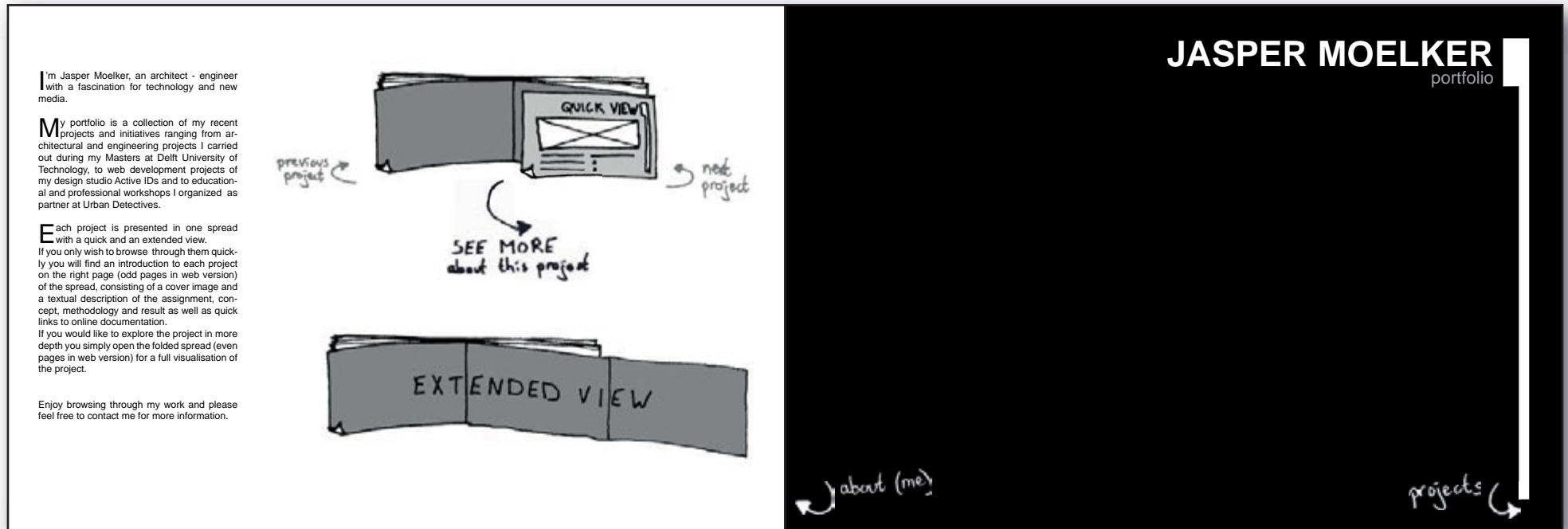
next →







# this project is part of Portfolio Jasper Moelker



for more projects visit  
[www.ActiveIDs.nl/jbmoelker](http://www.ActiveIDs.nl/jbmoelker)