

## SWAT Studio – Dubrovnik

From 19th to 30th September 2016 City of Dubrovnik in collaboration with Faculty of Mechanical Engineering and Naval Architecture, University of Zagreb (FSB) and City of Dubrovnik Development Agency (DURA) hosted SWAT Studio workshop. SWAT Studio is a Building Technology programme for MSc 3 students from the Delft University of Technology. It consists of 3 main parts. One of it is onsite intensive 2-weeks workshop that was held in City of Dubrovnik.

The main goal of the workshop is to bring ideas for new urban design, through combination of Climate, Facade and Structural interventions in order to create a sustainable lifestyle in existing cities. Students were divided into 6 groups and each group investigated one of the following locations:

1. The Dubrovnik General Hospital, Small and Great Petka Park
2. Gruž (NW)
3. Gruž (SE)
4. Pile
5. Old Town
6. Ploče

On the first day, 19th September SWAT group of 33 students led by professor Dr. Craig Lee Martin were hosted at Dubrovnik City Hall. After a brief presentation of Prof. Dr. Craig Lee Martin about aims of SWAT Studio deputy mayor Željko Raguž, dipl. oec. gave the welcoming speech.

A representative of DURA, Marko Cosmai talked about Agency, their main function and services that provides. He introduced students into main urban energy planning problems and challenges of Dubrovnik City. He gave an overview of finished, ongoing and planned projects at both local and international level. Among others, a project named Sustainable Energy Action and Climate Plan (SECAP) of Dubrovnik City has great importance for sustainable development. Project is currently in progress and it is being done in cooperation with FSB. A project Dubrovnik Smart City represents another big potential in it is sustainable development.



Professor Goran Krajačić from Faculty of Mechanical Engineering and Naval Architecture spoke about sustainable development in general and how it is related to economy, society and environment. Dubrovnik has a long history as independent city that has been sustainable behind its walls for years. Lately economic growth and tourism made it less sustainable and that is something that needs to be changed. Possible ways on how to do it has been presented and they mainly refer to existing Strategies as well as development of Dubrovnik as Smart City with a smart system consisting of smart grid, smart heating and cooling grids. Apart from implementing new technologies it is necessary to reduce

energy demand. As an initial step for that is mapping of demand and potential of renewable energy sources. Work on SEACP for the City of Dubrovnik is keeping it is development on the right track.

As a part of presentation, current results of energy consumption made for SECAP were presented. According to the results, private and public transportation are the biggest polluters but also they provide plenty of opportunities for enhancements. Right after transportation second great energy consumer are households. Therefore examples of good practice how to reduce energy consumption were given.

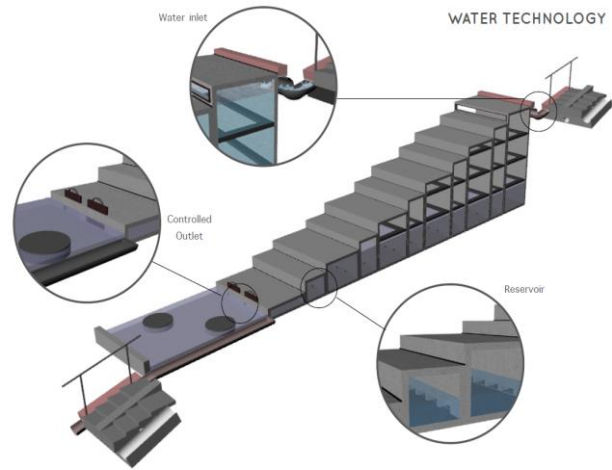
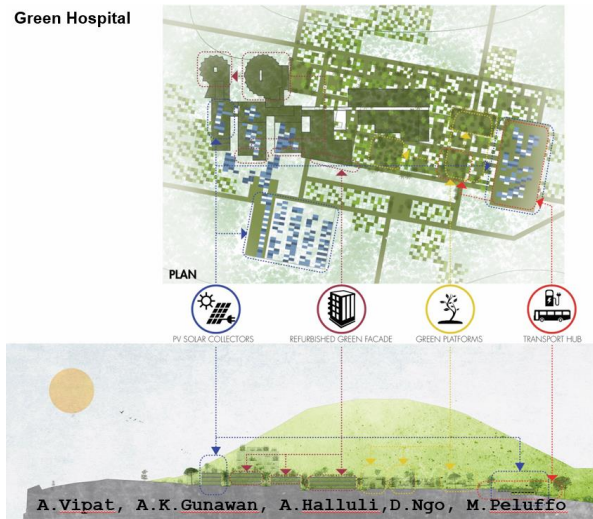
After presentations students were taken to the site visit of locations under the expert guidance of local architect Davor Bušnja. He explained the main architectural and urban characteristic of locations where students are planning to propose interventions.

In following 10 days students were working hard on creating innovative and sustainable intervention plans within given locations. They had to face with city that is at the same time a cultural and historical heritage with many protected areas and a growing touristic destination but also important urban area.



The final presentations were held on 30th September at the campus of the University of Dubrovnik. Each group presented their work to members of the Department of Planning and Environment at the Municipality of Dubrovnik, and the City of Dubrovnik Development Agency. Proposed interventions range from architectural transformations of buildings, improvement of the public space, water and energy management to sustainable transportation. Some of them are shown on the images below.

**Green Hospital**



F. Balkuv, A. Huitema, M. van der Kuur, P. Papangelopoulou, M. Voorhorst  
C. van der Werf



Presentations were followed with group discussion where Andrea Novaković Director of City of Dubrovnik Development Agency DURA had the main word giving her comments and advices for further students work.