

Wednesday, 23 February

## Sun: problem and solution and exploring Lleida

### La Llotja de Lleida

Today we visited the „La Llotja de Lleida“. This building is used as a theater, an auditorium and as a congress. It's constructed like a square and has different orientations like: northeast, northwest, southeast and



southwest. This is because the architect wanted to use the sunlight for his purposes. I think this is very interesting and smart. The whole Llotja is built with a brownish stone. It shows the connection between the building and the local cathedral. I think this somehow shows the significance of the Llotja. The second floor of the beautiful building is somehow „flying“.

Toni told us that this is to protect the first floor, where the entrance and a cafe are located, from too much sunlight or rain. The temperature inside of the building gets regulated through two steps: 1. Between the facade and the actual building is a hollow space. 2. There are pipes full of water, that can regulate the temperature, either to make it warm or cool.

The Llotja has very big windows, this is to take advantage of the sunlight for warmth in winter and for natural lighting.

After our little tour around the landmark, we went inside. There was a big, bright and white hall. We went upstairs and walked around the window facade, then went to the rooftop. It was such a pretty view from there. Toni told us, that this place is very important for the habitants of Lleida to just relax and enjoy the view.

After the rooftop we went to the theater inside of the Llotja. We even got to be backstage and saw 1000 seats that are supposed for the audience. The theater was built that from every seat you could see the same. I could verify this theory as we sat there and looked and the stage.

After the tour in and around the Llotja we



went back to the school and I need to say that this visit was very interesting and inspiring.

### 3D printing workshop

In the Afternoon we had the 3D Workshop, in which we had to create an own solution inspired by nature, to let the sun comes in the building in winter and let the sun out in summer. My group and me had the idea to create plates which have a sensor, so that they follow the sun during the day. This solution is inspired by sunflowers.



In this plates are micro algae and water, so that the algae can spreading when the sun is shining on the plates. The algae produces then biomass and this is turn into Biogas. This biogas can be used for anything, like for the heating or for warm water. In winter the whole process can be stopped. Also because of the winter the algae stop spreading, so the algae don't produce any biogas. Then you can use the biogas from summer. When the system is in standby the sun can shine in the building so that

the sun produces warmth.

All in all the 3D workshop was really fun and was very interesting to create own solutions inspired by nature!

By Maurice, Domenik and Xenia