Microtec patented a system that estimates the rotation angle of a wood log comparing the x-ray images acquired in 2 time frames.

Objective: Improving such algorithm implementing features extraction and feature matching (SIFT, SURF..)

The thesis will be developed in cooperation with the company Microtec based in Mestre.
Microtec has developed a tomographic scanner able to measure the density of each voxel of a wood log and process the images.

**Objective:** Developing a software solution based on semantic segmentation for the automatic detection of the presence of bark on the surface of the log from tomographic images. A first step is the development of a software that uses traditional methods for building a dataset of images for training the CNN: this step will be done by comparing the raw scans with new scans of the logs debarked.

The thesis will be developed in cooperation with the company Microtec based in Mestre.
In order to understand the intent of the artist it is important to include in artistic exhibitions the possibility for the visitor of interacting with the content of the artworks. Escher is one of the most famous modern artists for the way he plays with human perception and mathematics.

**Objective:** develop a software that will be used in worldclass artistic exhibitions that collect depth+color images (from a Kinect or similar) that scans the face of 1 or 2 people in order to reproduce the effect of the artwork «Rond of union» and «Rind».

The thesis will be developed in cooperation with the company Microtec based in Mestre.