5 SUMMARY

During the thesis work, the goal of developing a new demonstration for the ORMON cobot was achieved. At first, previous cobot usage was researched and new ideas were proposed. These new ideas were scored based on a custom scoring, which gave greater importance to the collaborative and appeal of the demonstration solution. Based on the chosen parameters a scoring table was created and the chosen solution was developed further. The chosen demonstration method was "Collaborative assembly of a product". The requirements and limits of the collaborative robot were taken into account during the creation of the demonstration.

Developing upon the chosen demonstration method, a simple model of a car was chosen as the product. Solidworks CAD software was used to design and model a 3D-representation of the parts necessary for the assembly. The same software was then used to assemble said parts and create the complete model. Drawings were also created for the manufacturing process. Calculations were done to ensure that the wooden clips used during the assembly process would withstand the forces exerted upon them by the grippers fingers.

Finally, a simulation of the assembly process was done using the program RoboDK. This simulation focused on the cobot side of the assembly process. Solidworks allowed for a simple process of moving the models into the RoboDK environment.

Because all of the results of this thesis were digital, care has to be taken when implementing this demonstration in a real setting. New problems are likely to occur during the manufacturing of the parts and the integration process of getting the cobot to assemble the pieces in a real environment. In the future, the OMRON cobot stand could be combined with the conveyor belt shown in figure 6 to more accurately simulate the traditional production line of a car.