On January the first IPD event of the year 2015-2016 took place at Fontys University of Applied Sciences Eindhoven.

After the lively and interesting keynote speech of Ing. Erik van de Vrugt (Chief Technology Officer / Owner TCPM) with the title **Developing production equipment for inexpert customers,** 24 projects reported their results in 4 parallel sessions. Three were nominated for the KIVI AWARD   2016. The final choice for the award will be made after the second IPD event on July 1.

Nominations:

Project IPD 6: 3D Vision for bin picking applications
Mechatronics students
Project description:
3D-vision for bin picking applications is one of the crucial things to get a good working application. This project is focused on getting the 3D information (coordinates) into a digital system. In order to get some information from the outside world into a digital system, two cameras are used. From the information from these camera (pictures) data extraction is needed. To extract data from these images many different algorithms already exist. To know which algorithm provides the best information to get the coordinates into a digital system further research has to be done. This specific 3D-vision project will make a combination of many different algorithms. Firstly, object recognition algorithms secondly depth mapping algorithms and finally rotation recognition algorithms. With the best combination of those algorithms the coordinates can be extracted and used by further robotic applications.
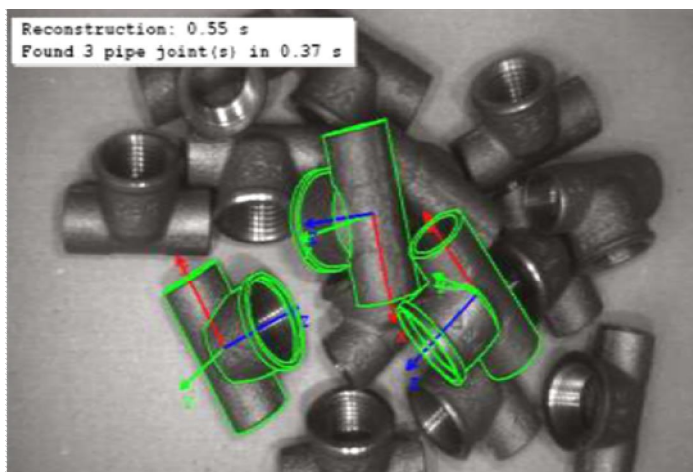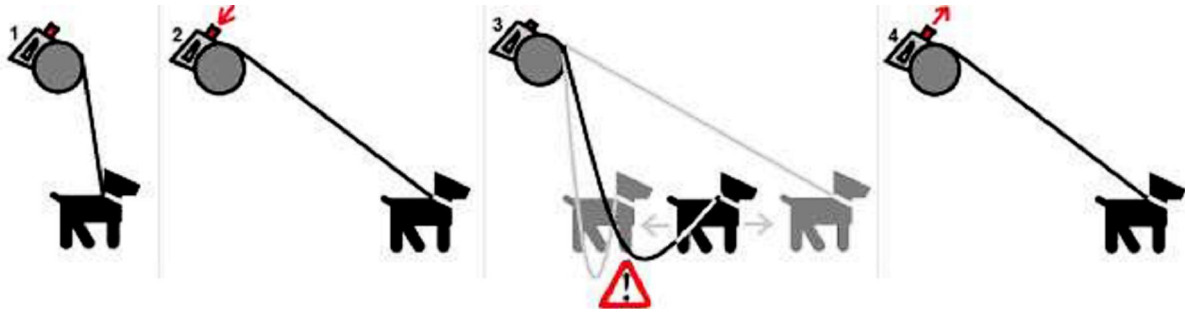

Project IPD 10: Self-winding dog leash
Mechanical Engineering department
Project description:
The aim of this project is to develop a retractable dog leash. The problem of many dog owners is shown in the picture below:
When the line is stopped the dog will still be able to move within the stopped length of the line.

Because the line dangles behind the dog, it can get stuck between the legs of the dog, and thus create problems for the owner or for the dog. This project is dedicated to a mechanical solution to this problem.

Project IPD 18: Tesla Coil
Electrical Engineering departement
Project description:
The goal of our project is to create a demonstrating unit of a tesla coil for Fontys to get new students excited about electrical engineering, because of this purpose it has to be extra safe.We power the tesla coil unit using a school lab supply with a maximum output of 30 volt and 3 ampere. By using contemporary technology it is possible to make the tesla work. To achieve sparking high voltages, the design is based on a resonant converter.