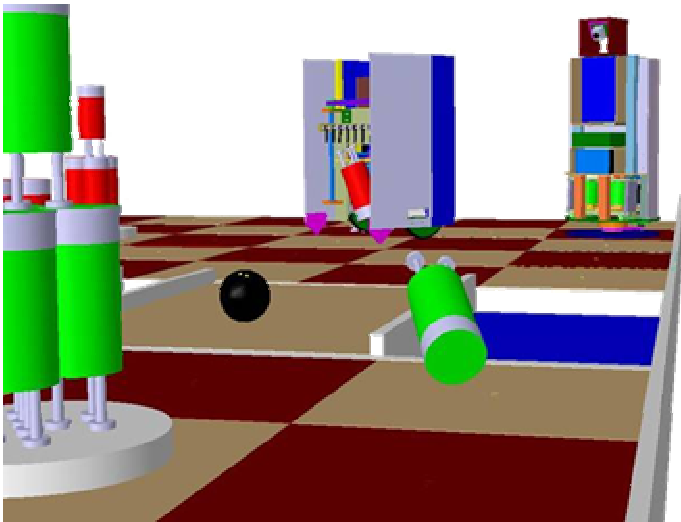


# Team-ID



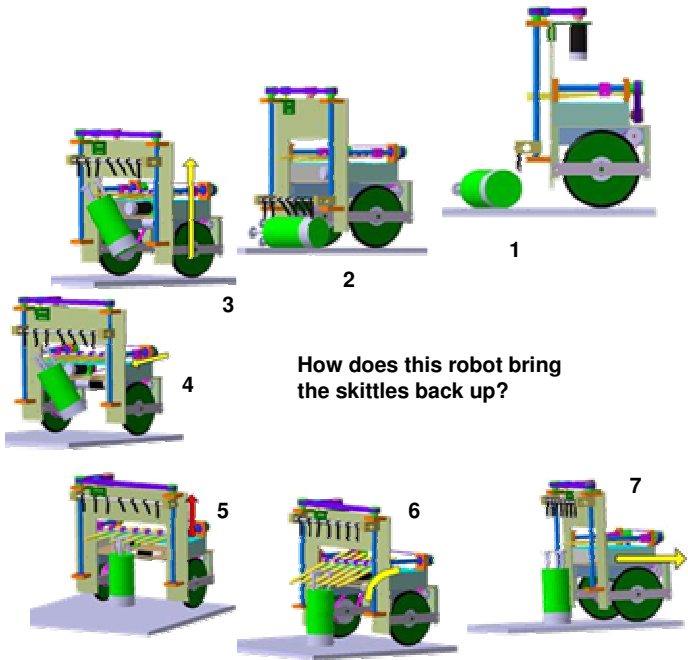
## Overview of the robots

The **attacker robot** (right) shoots skittles using a ball launcher. It is not a mobile robot (no wheels or legs). The launcher can pivot horizontally using a turret. The robot can locate skittles (even before the beginning of the match) using a laser telemeter.

The **defense robot** (left) sets upright the skittles the opponent takes down, and releases them in a safer place, (edges and corners of the field). It uses magnets to pick up the skittles and laser sensors for positioning.

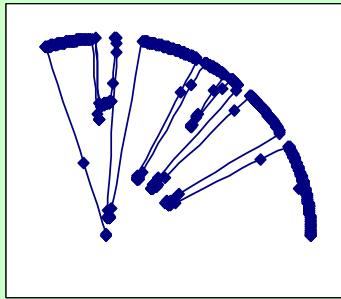
## Team-ID 2005 with numbers:

- 9 students
- 10 uP/uC
- 2 robots
- total motor power : 105 Watts
- rollers weight : 2 x 450 g
- speed of balls : 70 km/h
- Wheel diameter : 12 cm
- 17 bearings
- 2548 meters of Scotch tape
- 9 motors
- so far 38 defective fuses



How does this robot bring the skittles back up?

## How to locate the skittles?



We use a distance laser sensor

A simple dynamic data processing algorithm tells us where the skittles are.

The laser distance sensor is very precise and we are able to scan the table before the match starts!

## The embedded control System

- The brain of the system, the "Rokepxa", which includes an ARM processor and a FPGA. This card is used to calculate the robots strategy and regulation.
- Home made electronic cards to get inputs/outputs, control some motors and take care of the ball launcher.
- An iPaq serves to program the robot via wireless and to view results.

