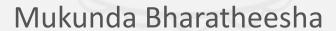
5.1.1

Logical camera in the factory simulation



Gazebo world file: basics

- Create world models that can be used in the Gazebo physics simulator
 - simulation description format (sdf) models.
 - multiple .sdf models composed in a world file
 - more features than URDF (friction, non-robotic elements) [1]
 - spawn urdf models in gazebo with spawner ROS node.

- Model functionality can be configured via Gazebo plugins
 - Logical camera plugin (libROSLogicalCameraPlugin.so)

Logical camera: models for factory simulation

- hrwros_gazebo ROS package
 - hrwros_gazebo/models
- Camera model files
 - hrwros_gazebo/models/logical_camera/model.sdf file
- Conveyor object(s)
 - config/conveyor_objects.yaml
 - simple box object

hrwros_gazebo: models and plugins

SDF models used in hrwros.world.

```
donnie@tudelft:~/ros/hrwros_ws/devel/lib$ ls -1 libROS*
libROSConveyorBeltPlugin.so
libROSLogicalCameraPlugin.so
libROSProximityRayPlugin.so
libROSVacuumGripperPlugin.so
```

A few plugins used in factory simulation.

Gazebo world file: hrwros.world

hrwros_gazebo/worlds/hrwros.world <?xml version="1.0"?> <sdf version="1.5"> <world name="hrwros world"> <include> <uri>model://conveyor</uri> <pose>1.2 5 0 0 0 -1.571 </include> <!-- include logical camera model(s) here --> </world> </sdf>