

Short description on how to modify the Gazebo files to put Sick Laser range finder or alternatively the Kinect camera. it is sufficient to modify the husky-fabrickhalle.launch file to change the robot configuration. The **urdf** and **gazebo** files in the husky kinetic devel should remain the same.

Transforms PoseStamped messages arriving from the **ar track pkg** into PoseWithCovarianceStamped. We publish separate markers into separate topics. To have this type of data structure similar to the original message type PoseStamped, message *headers* should be copied: new message.header = old message.header .

```
header:  
  seq: 22  
  stamp:  
    secs: 1534  
    nsecs: 245000000  
  frame_id: ar_marker_3  
pose:  
  pose:  
    position:  
      x: 0.751884218055  
      y: 0.329091073278  
      z: 1.73949968962  
    orientation:  
      x: 0.551808475407  
      y: 0.626531659375  
      z: -0.330457835766  
      w: -0.440185307626  
  covariance: [0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.001, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.001, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.001, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.001]
```

Figure 1: Data structure of PoseWithCovariance message of the node dataconverter

Ones values were the same we are satisfied.

We have to find a way to get a map to markers transformation for the EKF node.