

UML class

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agvs_controller (ROS Node)

```
# number : int
# state_sub : ros::Subscriber<const std_msgs::String>
# station_sub : ros::Subscriber<const std_msgs::String>
# submit_shipment_scl : ros::ServiceClient<nist_gear::AGVToAssemblyStation>
# curr_state : std::string
# curr_station : std::string
```

```
# state_callback(const std_msgs::String::ConstPtr& msg) : void
# station_callback(const std_msgs::String::ConstPtr& msg) : void
+ submit_shipment(const std::string& assembly_station_name, const std::string& shipment_type) : bool
```

sensor_subscriber (ROS Node)

```
# breakdownbeam0_sub : ros::Subscriber<const nist_gear::Proximity>
# breakdownbeam0_change_sub : ros::Subscriber<const nist_gear::Proximity>
# logical_camera_bins0_sub : ros::Subscriber<const nist_gear::LogicalCameraImage>
# logical_camera_station2_sub : ros::Subscriber<const nist_gear::LogicalCameraImage>
# proximity_sensor_0_sub : ros::Subscriber<const sensor_msgs::Range>
# laser_profiler_0_sub : ros::Subscriber<const sensor_msgs::LaserScan>
# quality_control_sensor_1_sub : ros::Subscriber<const nist_gear::LogicalCameraImage>
# quality_control_sensor_2_sub : ros::Subscriber<const nist_gear::LogicalCameraImage>
# quality_control_sensor_3_sub : ros::Subscriber<const nist_gear::LogicalCameraImage>
# quality_control_sensor_4_sub : ros::Subscriber<const nist_gear::LogicalCameraImage>
- n : ros::NodeHandle*
```

```
+ break_beam_callback(const nist_gear::Proximity::ConstPtr&) : void
+ break_beam_change_callback(const nist_gear::Proximity::ConstPtr&) : void
+ laser_profiler_callback(const sensor_msgs::LaserScan::ConstPtr&) : void
+ proximity_sensor_callback(const sensor_msgs::Range::ConstPtr&) : void
+ quality_callback1(const nist_gear::LogicalCameraImage::ConstPtr&) : void
+ quality_callback2(const nist_gear::LogicalCameraImage::ConstPtr&) : void
+ quality_callback3(const nist_gear::LogicalCameraImage::ConstPtr&) : void
+ quality_callback4(const nist_gear::LogicalCameraImage::ConstPtr&) : void
+ logical_camera_callback(const nist_gear::LogicalCameraImage::ConstPtr&) : void
+ logical_camera_callback2(const nist_gear::LogicalCameraImage::ConstPtr&) : void
+ startdetect() : void
```

AGVToAssemblyStation

Request:

```
+ assembly_station_name :: std::string
+ shipment_type :: std::string
```

Response

```
+ success : bool
+ message : std::string
```