

# Χαρτογράφηση με Sonars

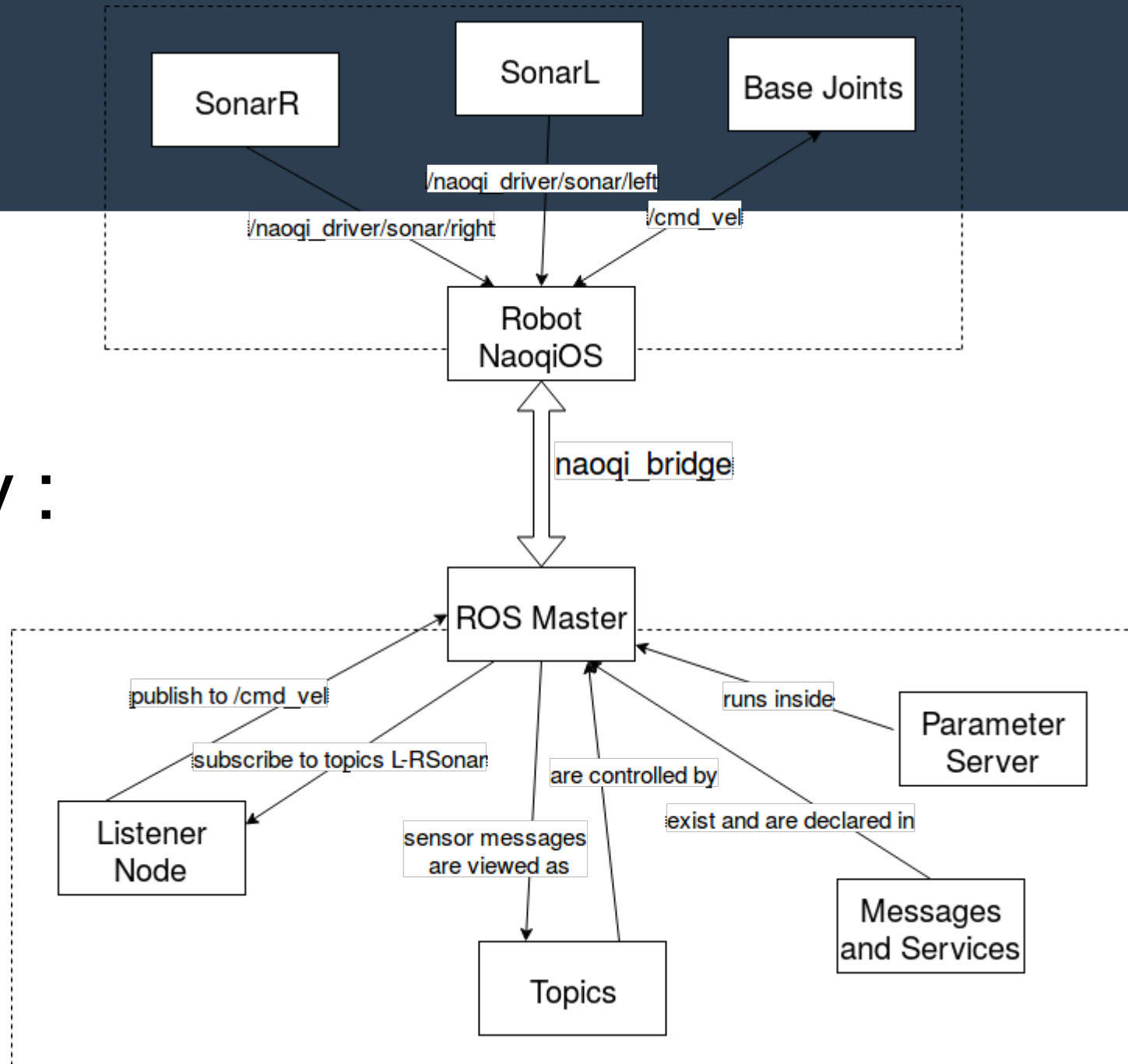
- ROS

- Nao v5

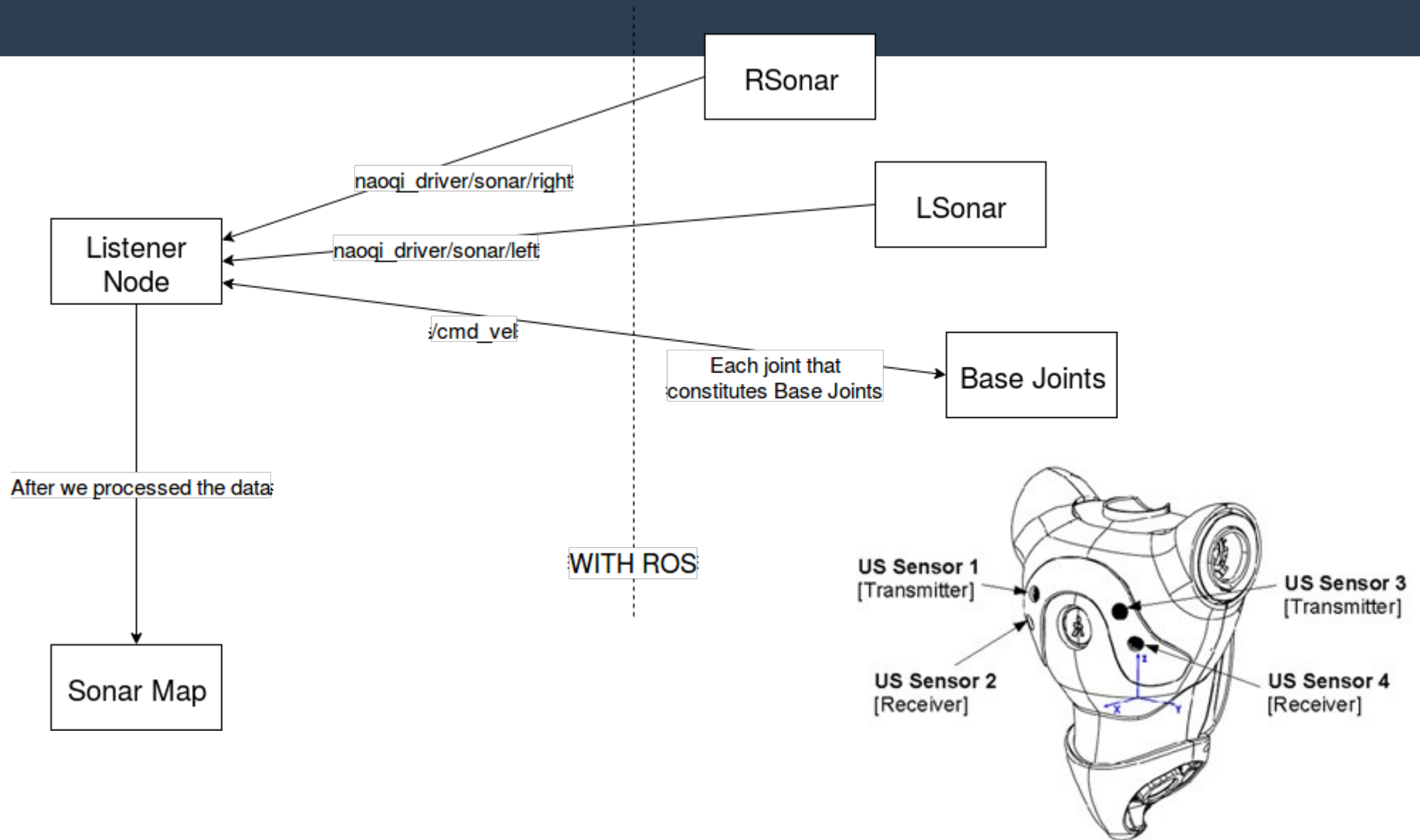
ROS



# Πως το ROS και το NaoqiOS επικοινωνούν :



# Η λειτουργία του Node



# Βασική δομή κώδικα

```
19 #include "ros/ros.h"
20 #include "std_msgs/String.h"
21 #include "sensor_msgs/Range.h"
22
23 //All the OpenCV classes, functions, and new API are placed into the cv namespace.
24 //Therefore, to access this functionality from your code,
25 //use the cv:: specifier (cv::Mat H = cv::findHomography(p1,p2,CV_RANSAC,5))
26 //or using namespace cv
27 using namespace cv;
28 using namespace std;
29
30 bool im_c=0;
31
32 // Topic messages callback
33 void chatterCallback(const sensor_msgs::Range::ConstPtr& msg)
34 {
35     ROS_INFO("Sonar Seq: [%d]", msg->header.seq);
36     ROS_INFO("Sonar Range: [%f]\n", msg->range);
37 }
38
39 int main(int argc, char **argv)
40 {
41
42     // Initiate a new ROS node named listener
43     ros::init(argc, argv, "listener");
44
45     // Create a node handler it is reference assigned to a new node
46     ros::NodeHandle n;
47
48     ROS_INFO("\n!!!---!!!Started running!!!---!!!\n");
49
50     //subscribe to a given topic, in this case: left sonar
51     //chatterCallback: is the name of the callback function that will be executed
52     //each time a message is recieved
53     ros::Subscriber sub = n.subscribe("/naoqi_driver_node/sonar/left", 1000, chatterCallback);
54     ros::Publisher chatter_pub = n.advertise<std_msgs::String>("chatter", 1000);
55
56     // Enter a loop, pumping callbacks
57     ros::spin();
58
59     return 0;
60 }
61
```

## Catkin\_Ws

### ♦ Cmakelists.txt

- for package, nodes, message and service declaration

### ♦ package.xml

- for package dependencies

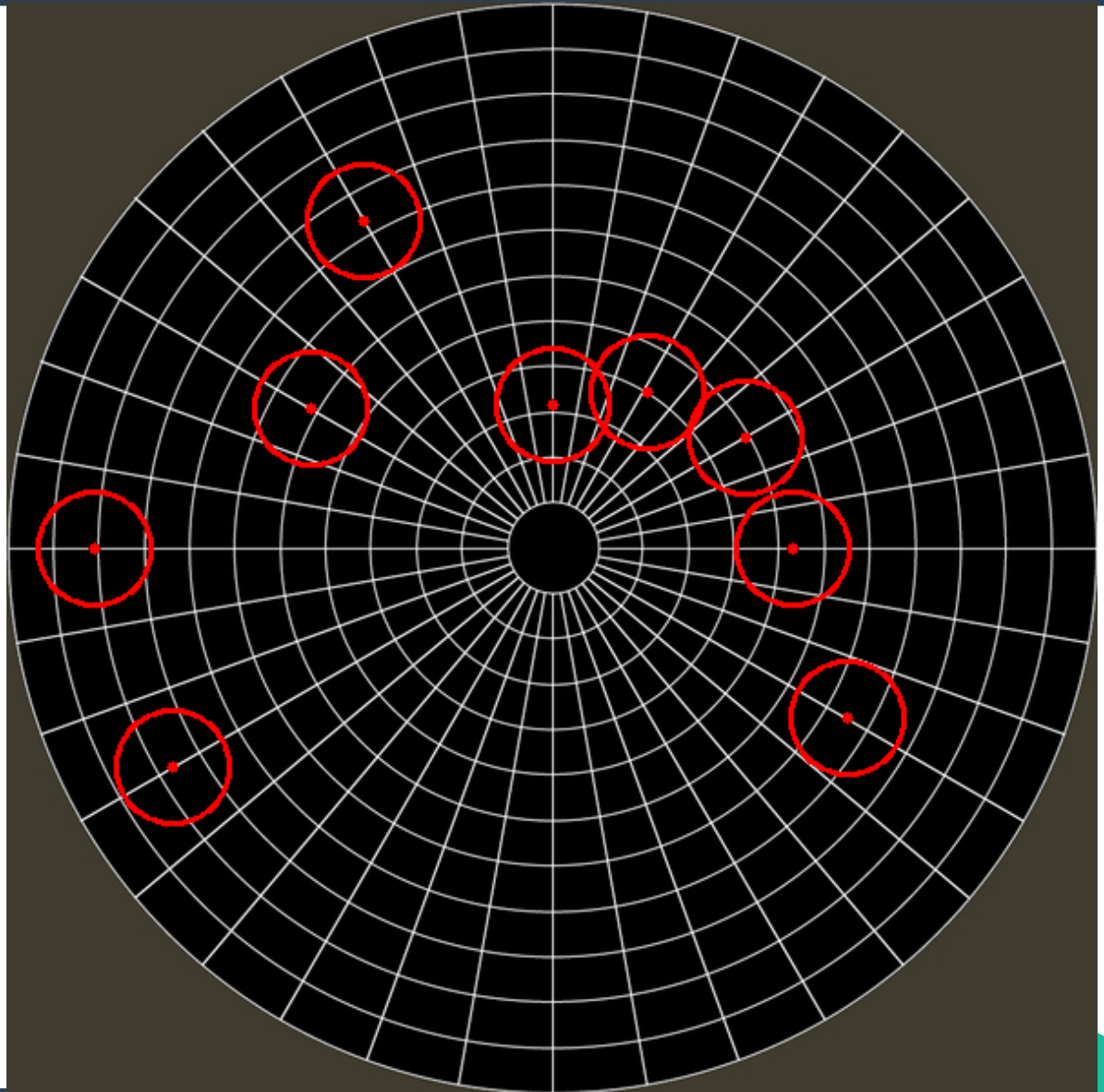


# Αποτελέσματα και Τρόποι Χρήσης

- Αποφυγή εμποδίων
- Path planning

## Ωστόσο :

- Αρκετός θόρυβος
- Ανάγκη για περισσότερη πληροφορία (πχ. camera)



# Χαρτογράφηση με Sonars Nao - ROS

**Ευχαριστώ για το χρόνο!**

**Καλή επιτυχία και στους υπόλοιπους!**

