



# Mobile Robot TwIRTee

Developed by

Jérémie CHIRAT (Project Manager)

Julien JOLLES

Roland SCHURIG

Léo SERRE

Prerana SHAMSUNDAR PUNJABI

# Summary

- Project Context
- Design and Implementation
- HMI
- Management and lessons learned
- Demonstration

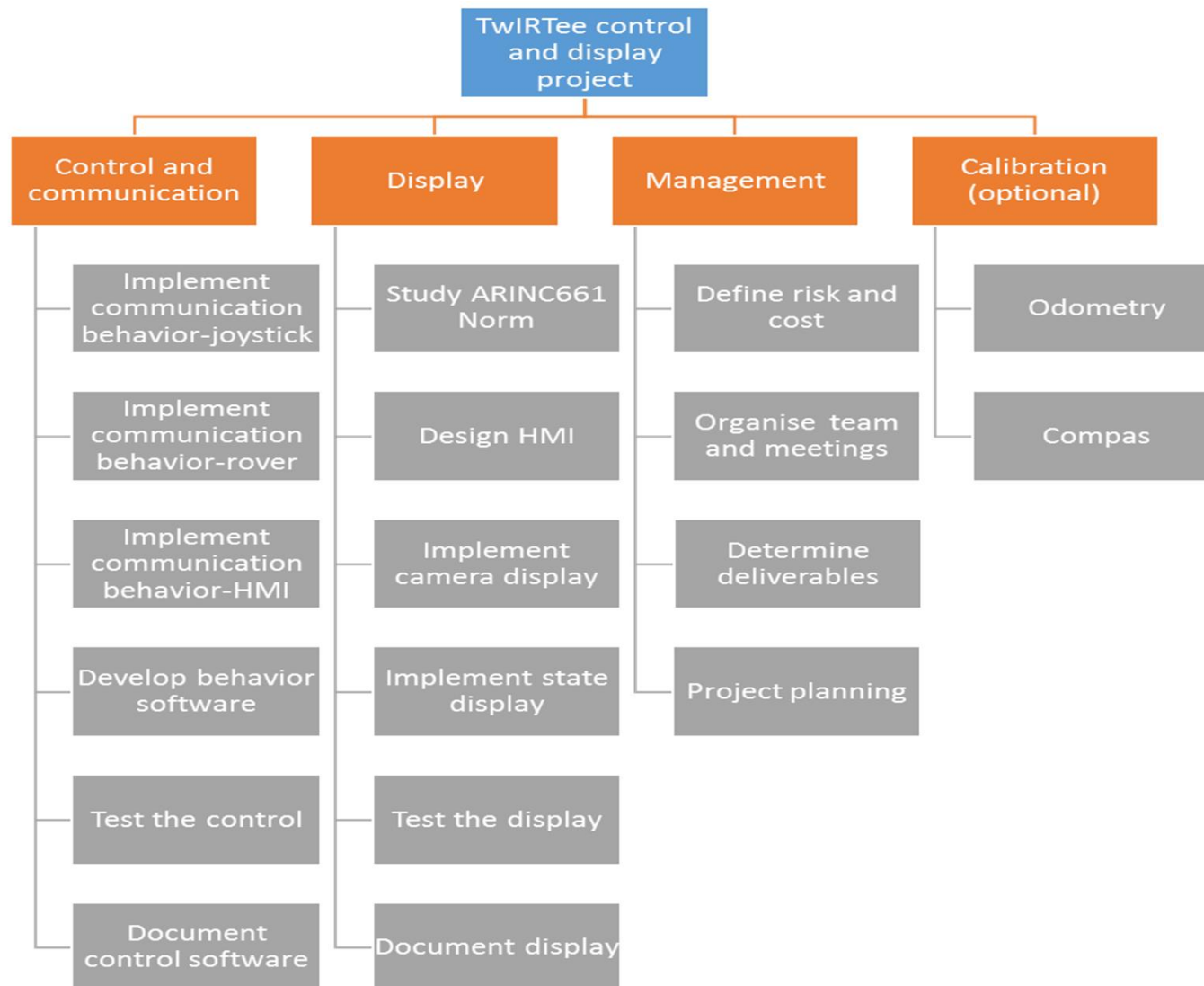
# Context



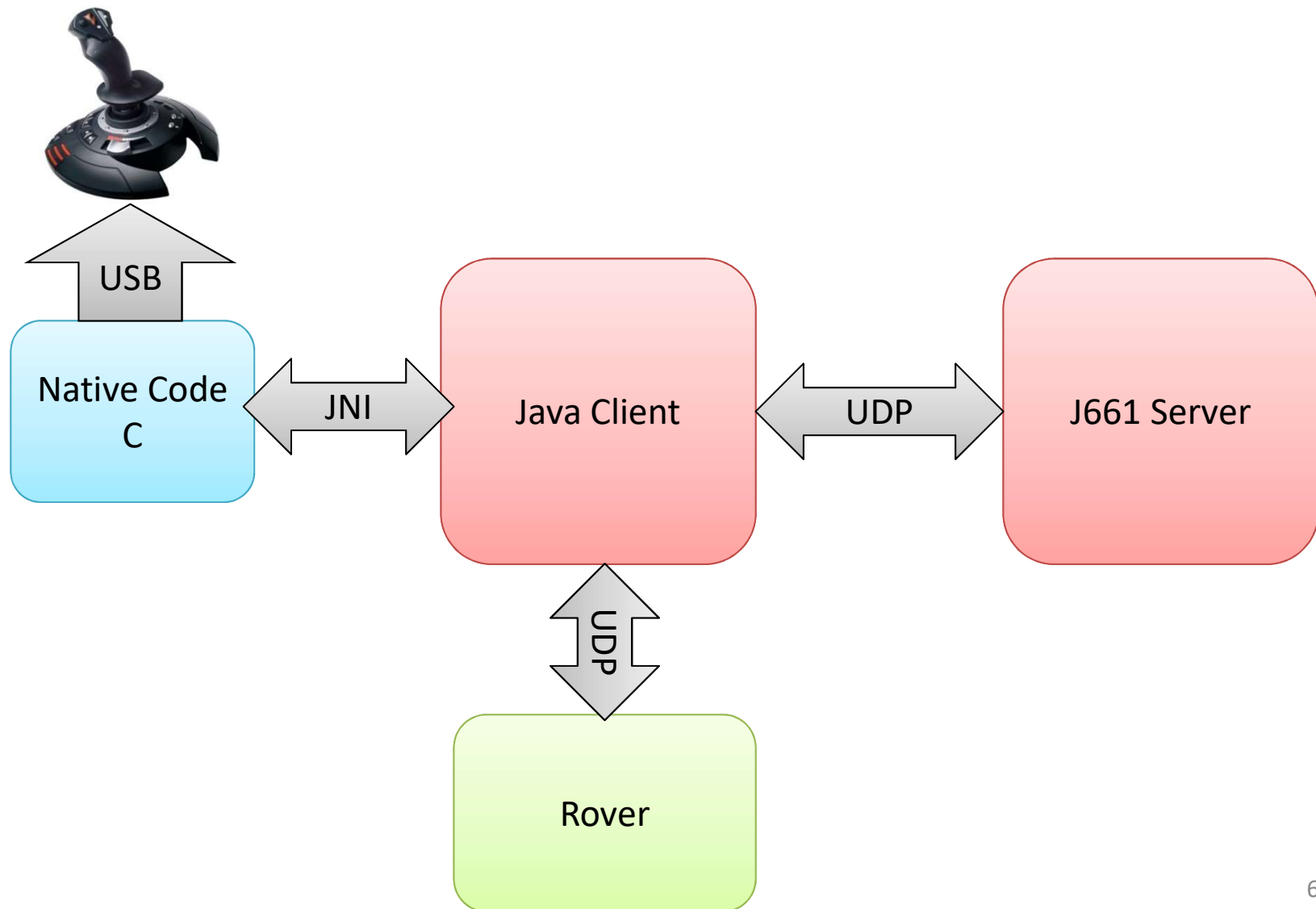
# Project Platform



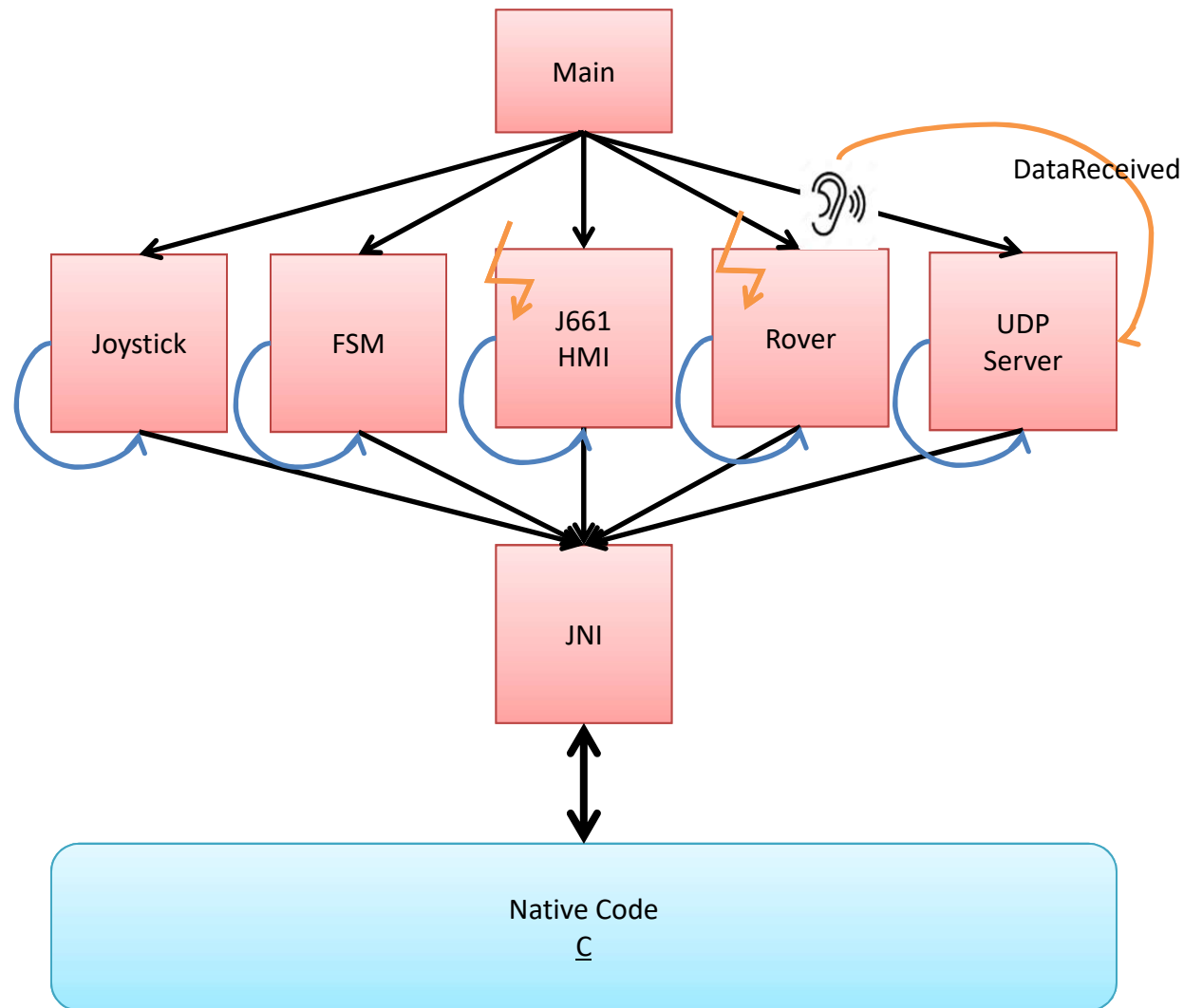
# Workpackages



# High Level Design Architecture



# Client Architecture

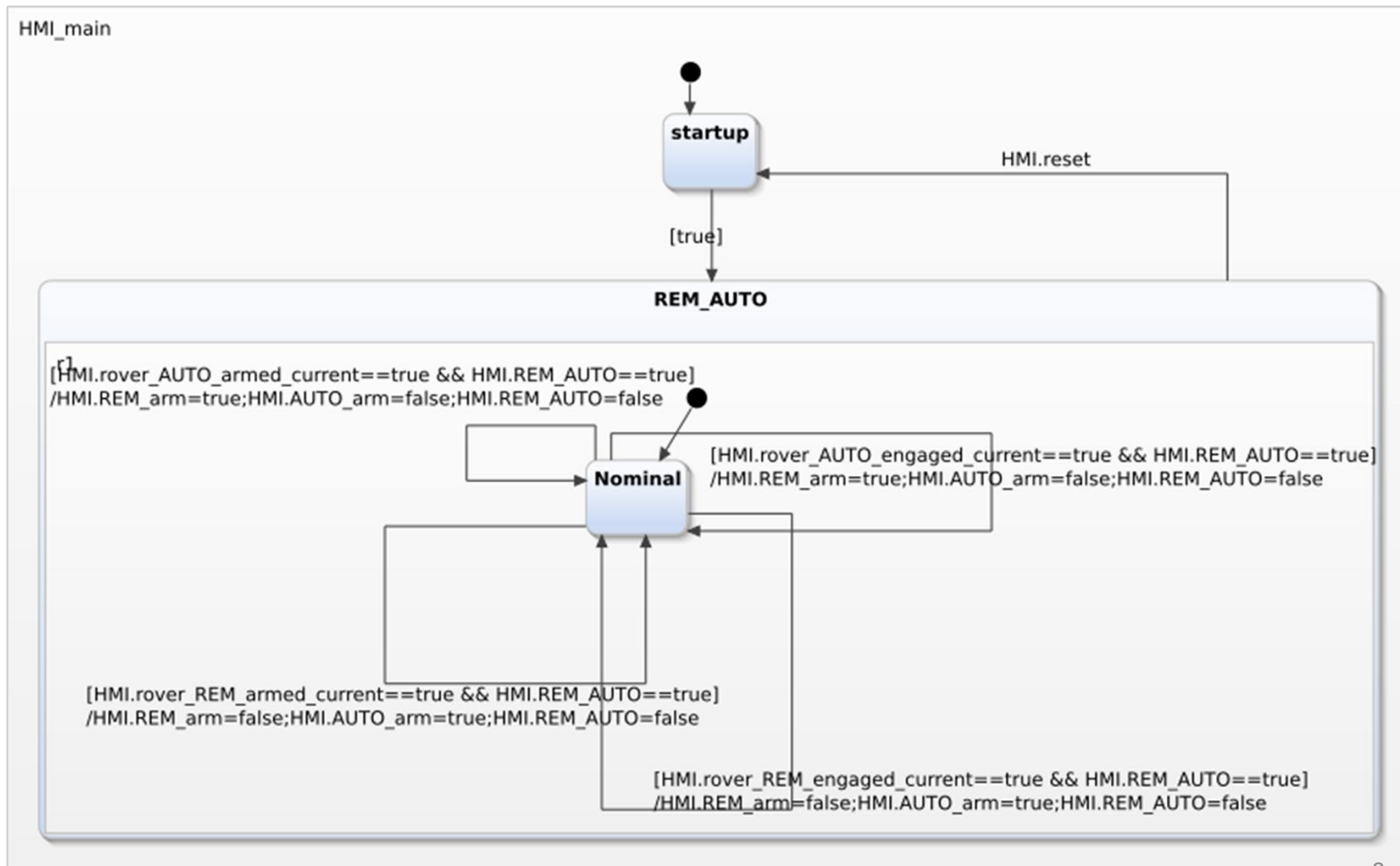


# Joystick

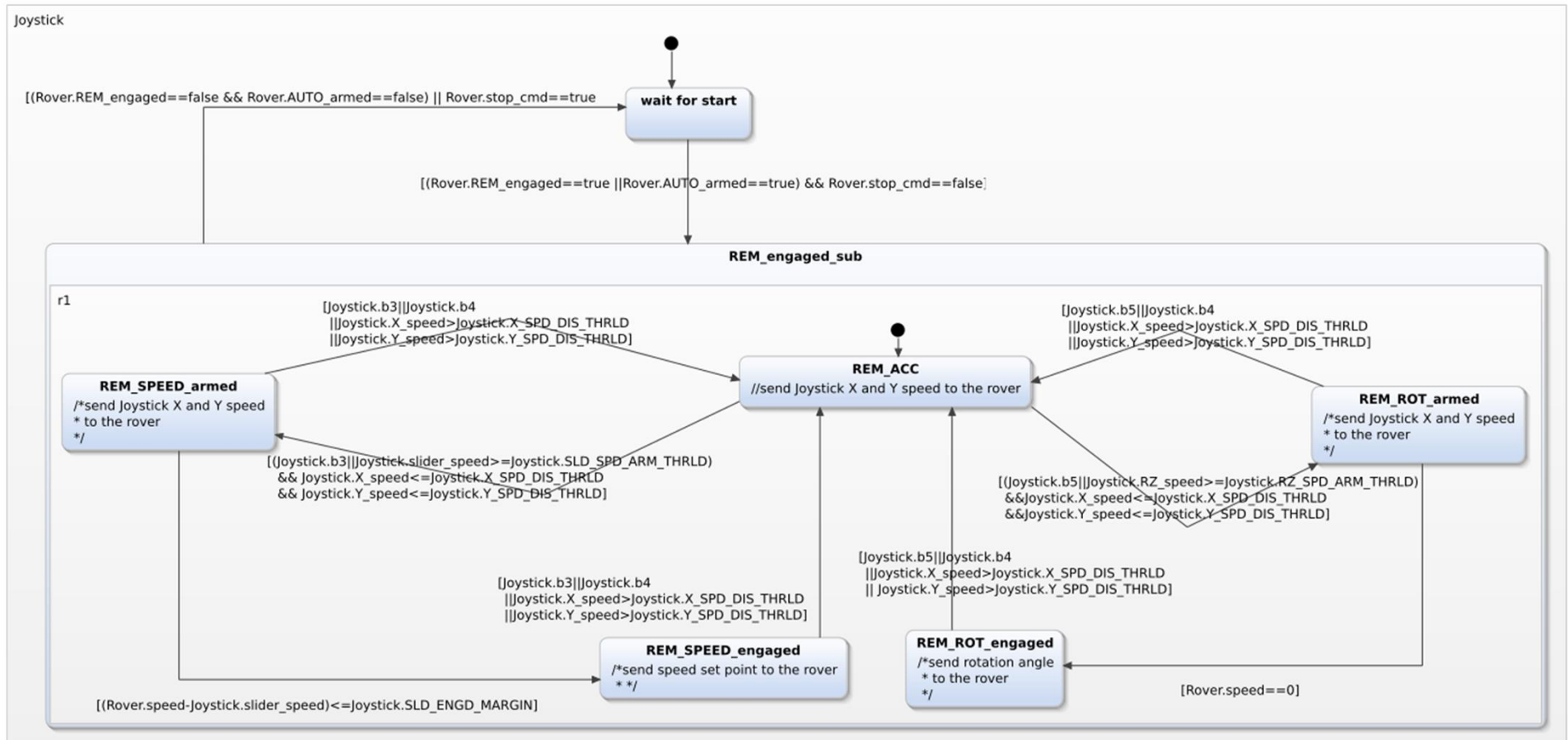




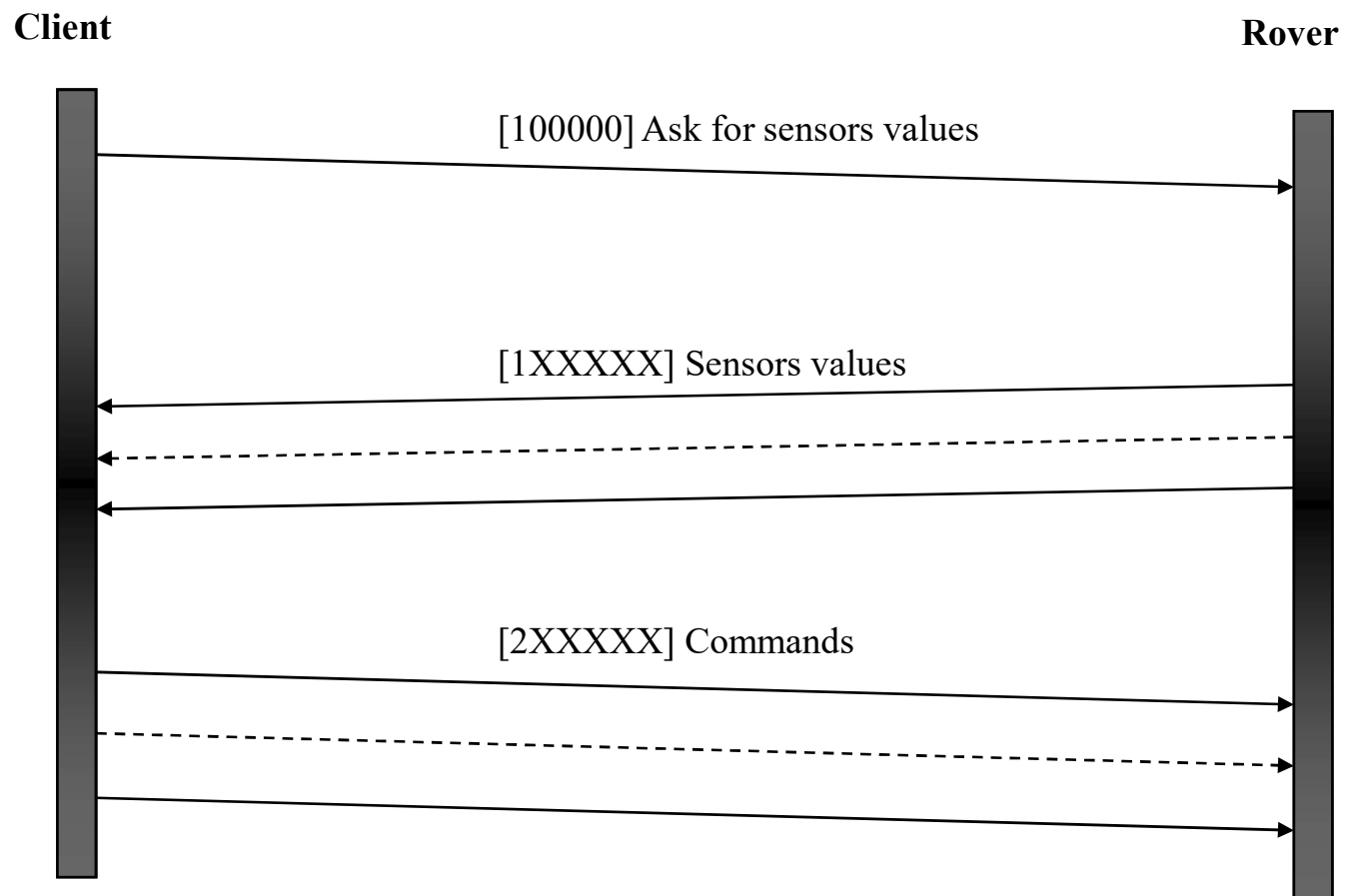
# Switching REM Auto



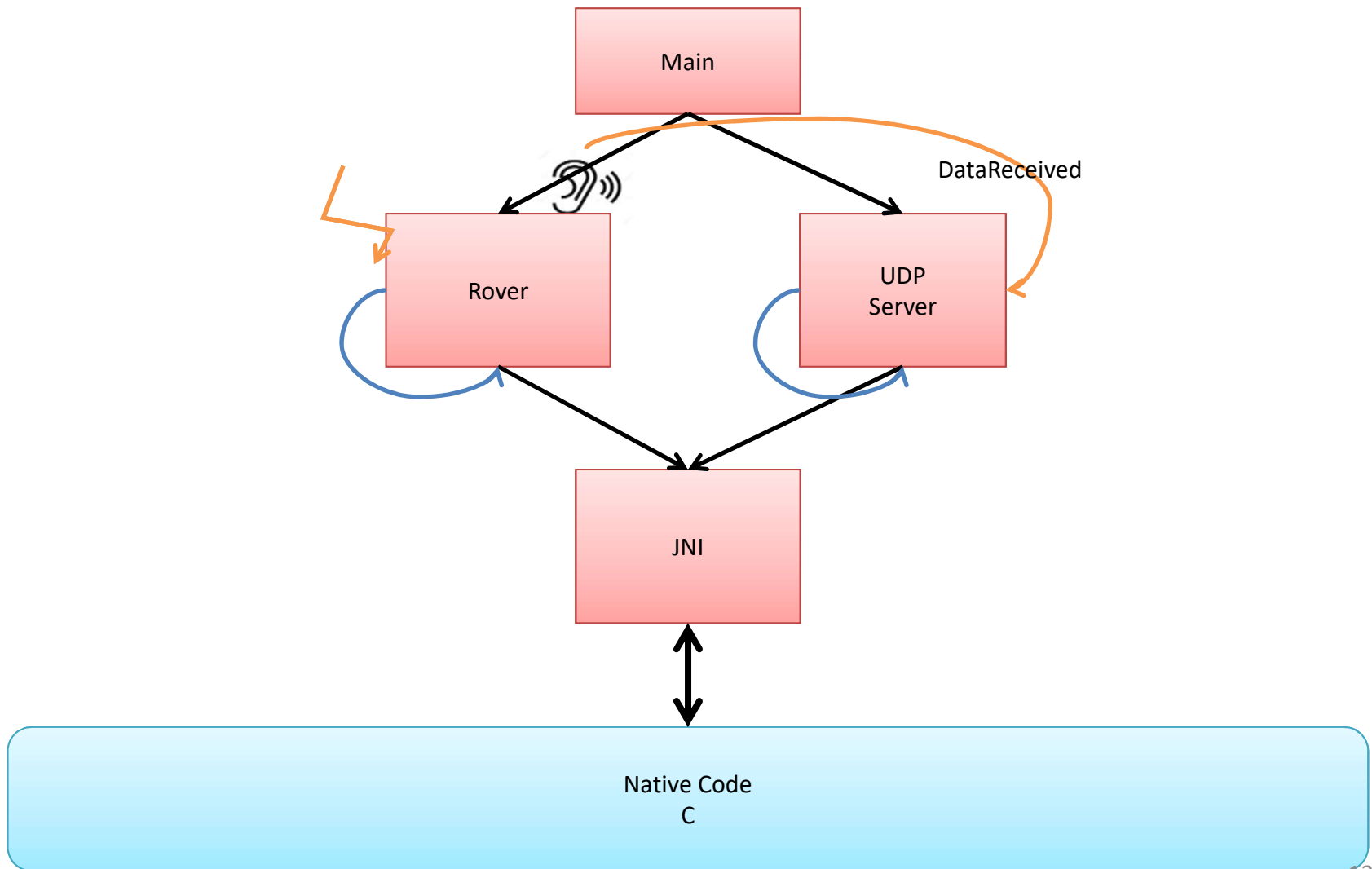
# REM - Control Mode



# UDP Communication Rover - Client

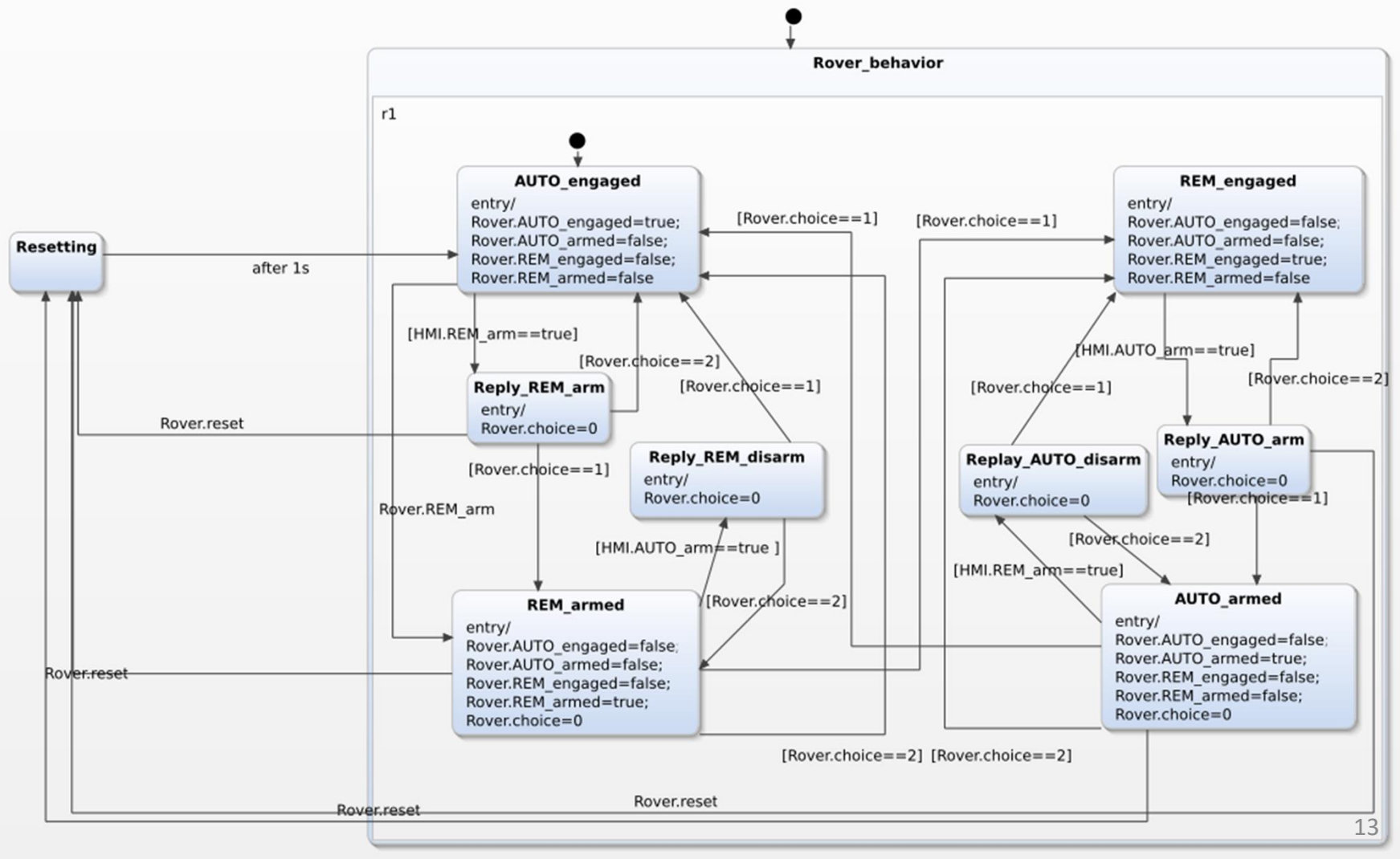


# Simulator Architecture

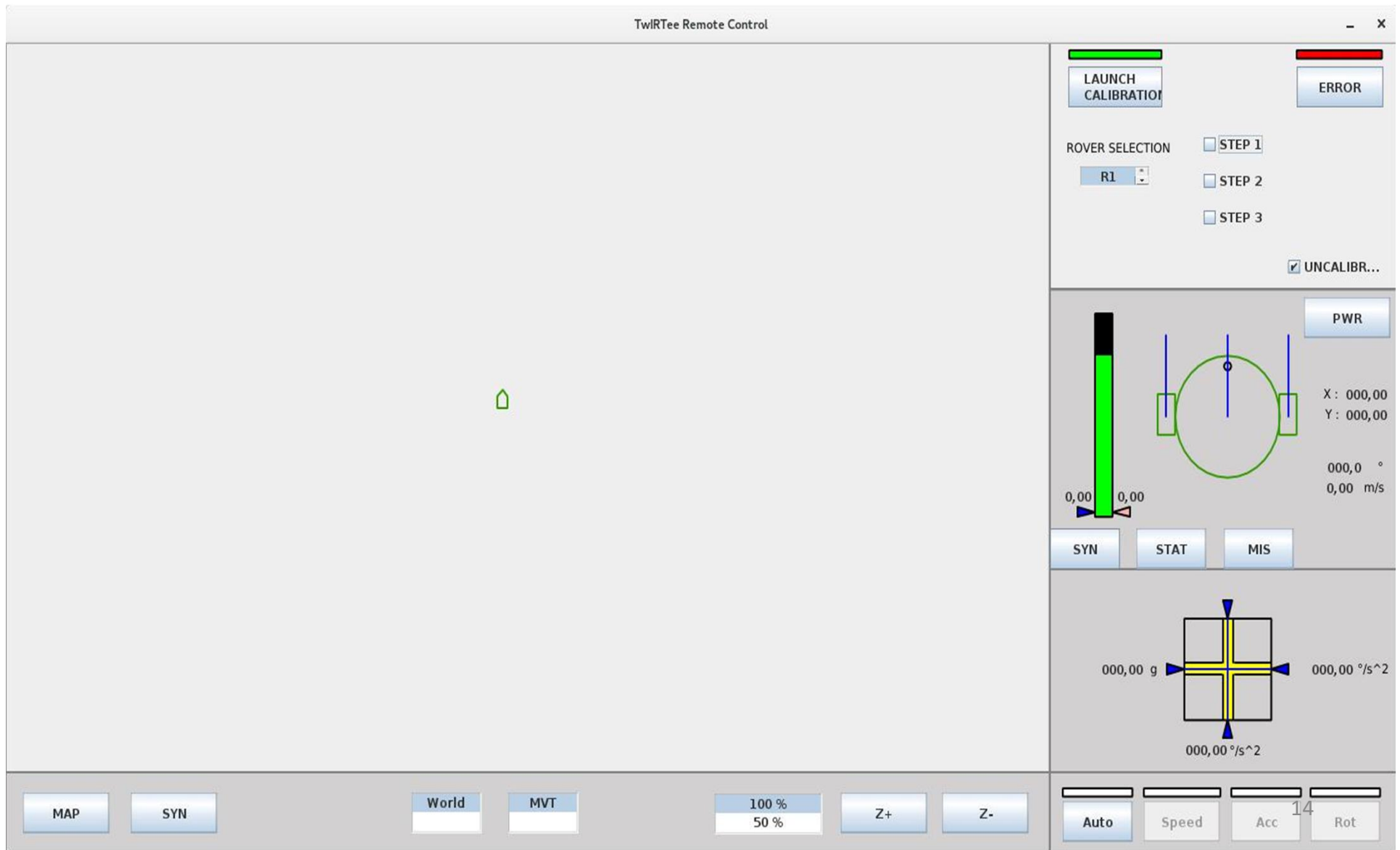


# REM – Auto

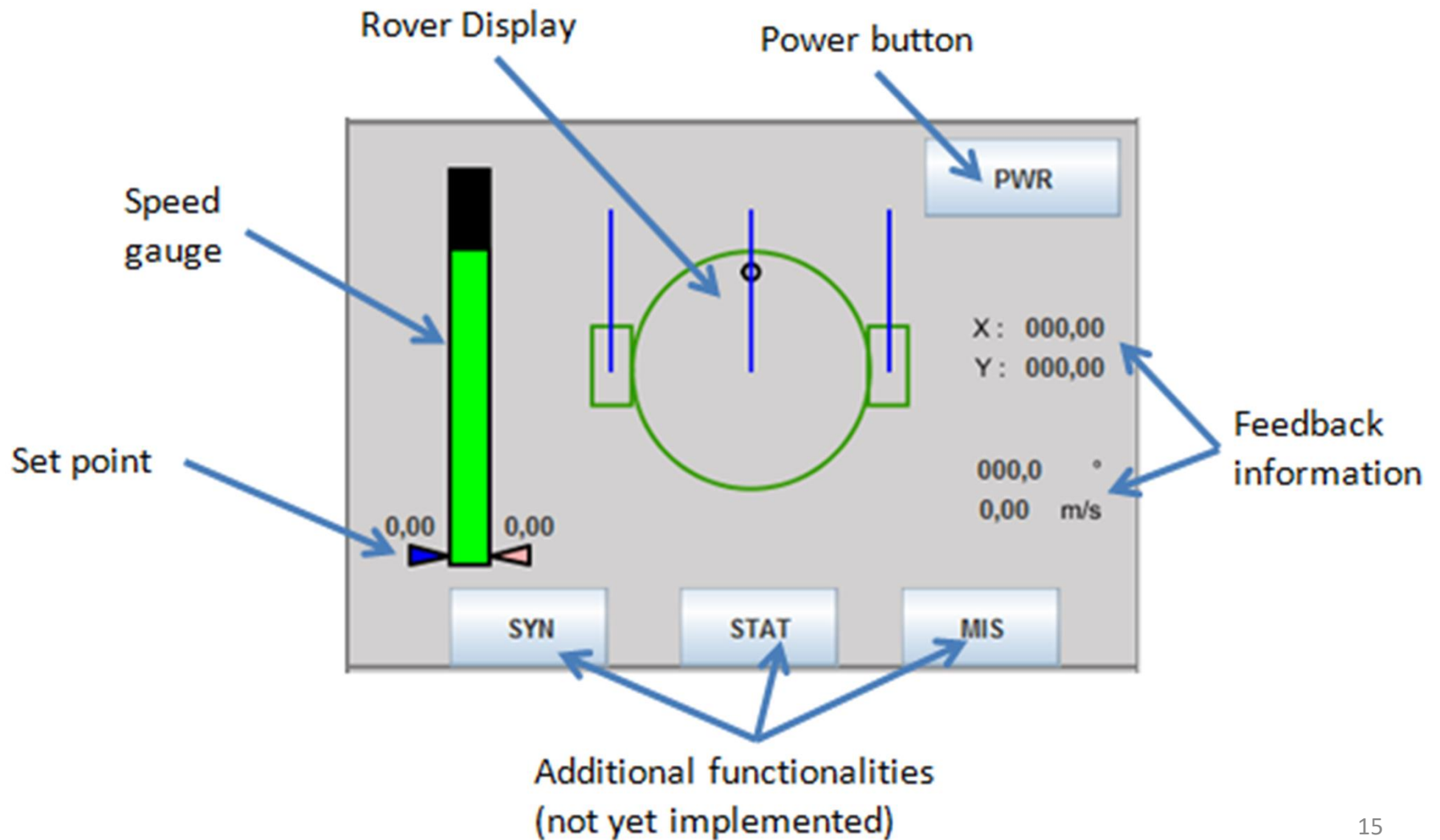
Simulator\_rover



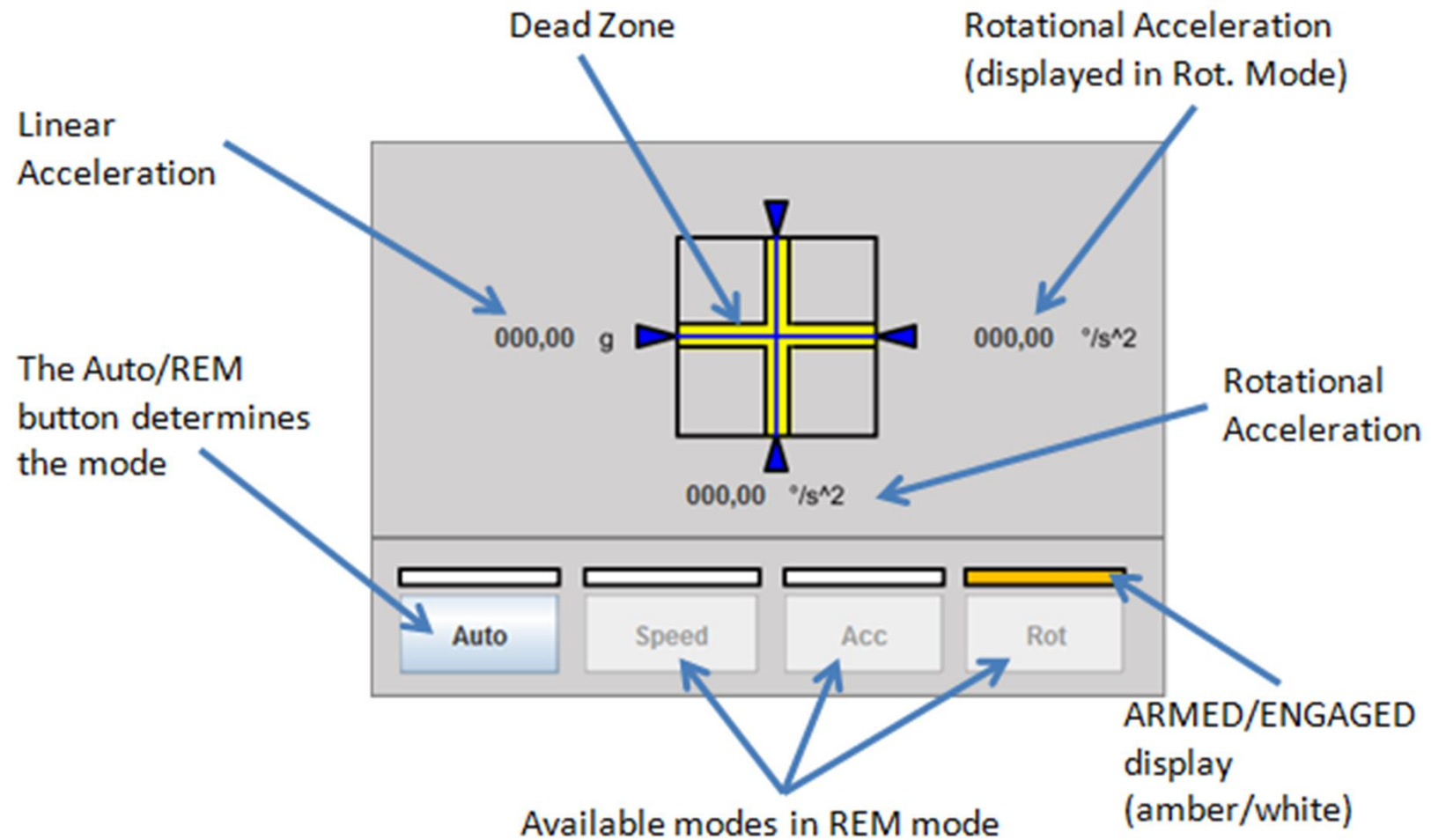
# J661 Interface



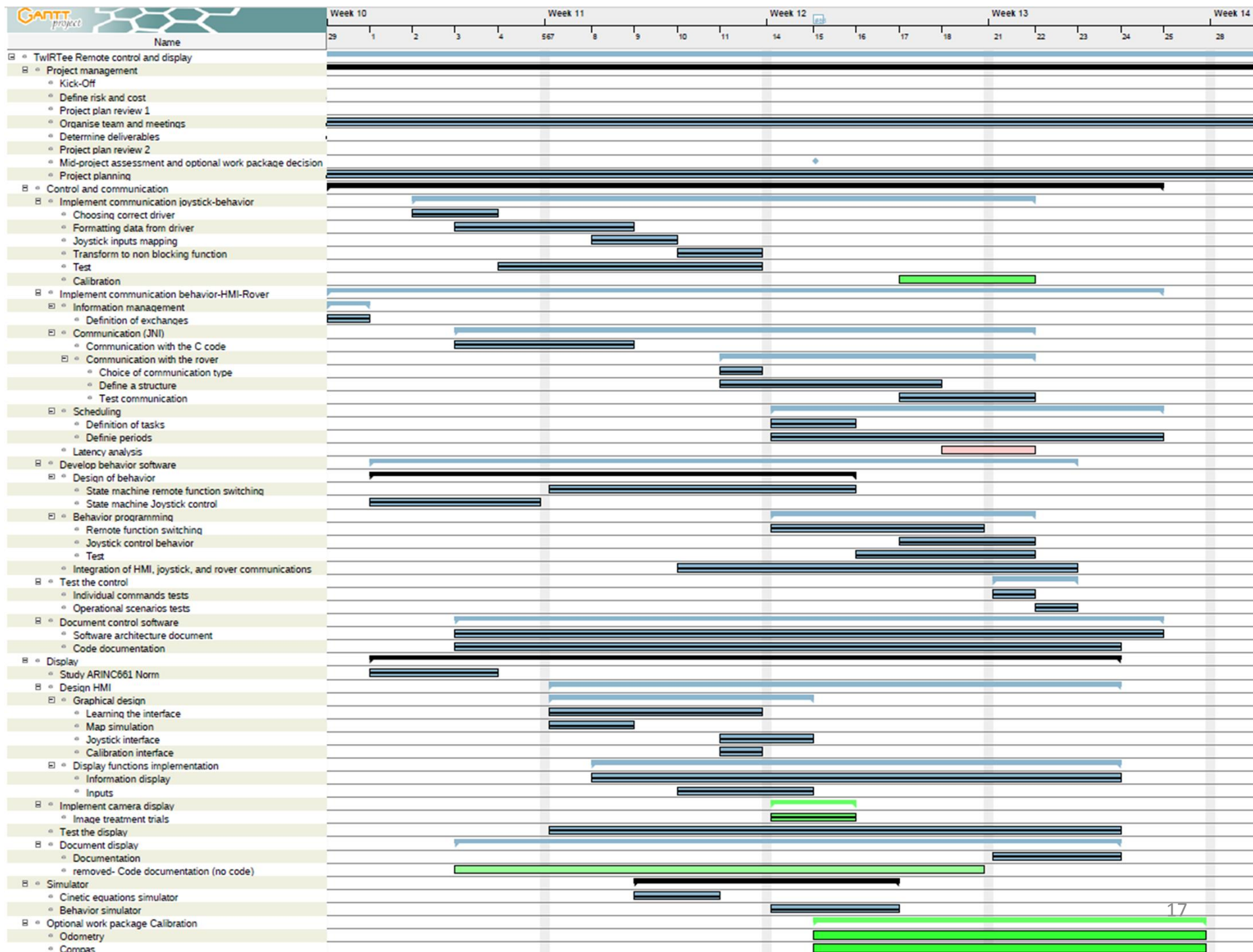
# Rover State



# Joystick Calibration







# WBS

PROJECT TASK	Cost estimation	Hours spent
Project management	115	110
Implement communication joystick-behavior	56	50
Implement communication behavior-rover	38	50
Implement communication behavior-HMI	40	60
Develop behavior software	55	100
Develop Simulator	36	80
Test the control	60	60
Document control software	40	30
Study ARINC661 norm	60	40
Design HMI	20	50
Implement camera display	20	10 (research)
Implement state display	28	50
Test the display	30	40
Document display	58	30
Optional work package calibration	140	0
Total	776	750

# Achievements

Modules	Implementation status	Coding	Documentation	Testing
<b>Java Client</b>	Implemented	Integrated	Completed	Completed
<b>Behavioral Code - Mode States</b>	Implemented	Integrated	Completed	Completed
<b>Behavioral Code -Joystick Behavioral Code</b>	Implemented	Integrated	Completed	Completed
<b>HMI Interface</b>	Implemented	Integrated	Completed	Not Applicable
<b>Simulator</b>	Implemented	Integrated	Completed	Not Applicable
<b>UDP Server</b>	Implemented	Integrated	Completed	Completed

# Lessons Learned

- Learned New Tools (J661, UDP, Yakindu, Git)
- Working in Linux environment (project set-up C and Java)
- Participate in all phases of the project
- Working as a team
- End-to end management of the project

# Demonstration