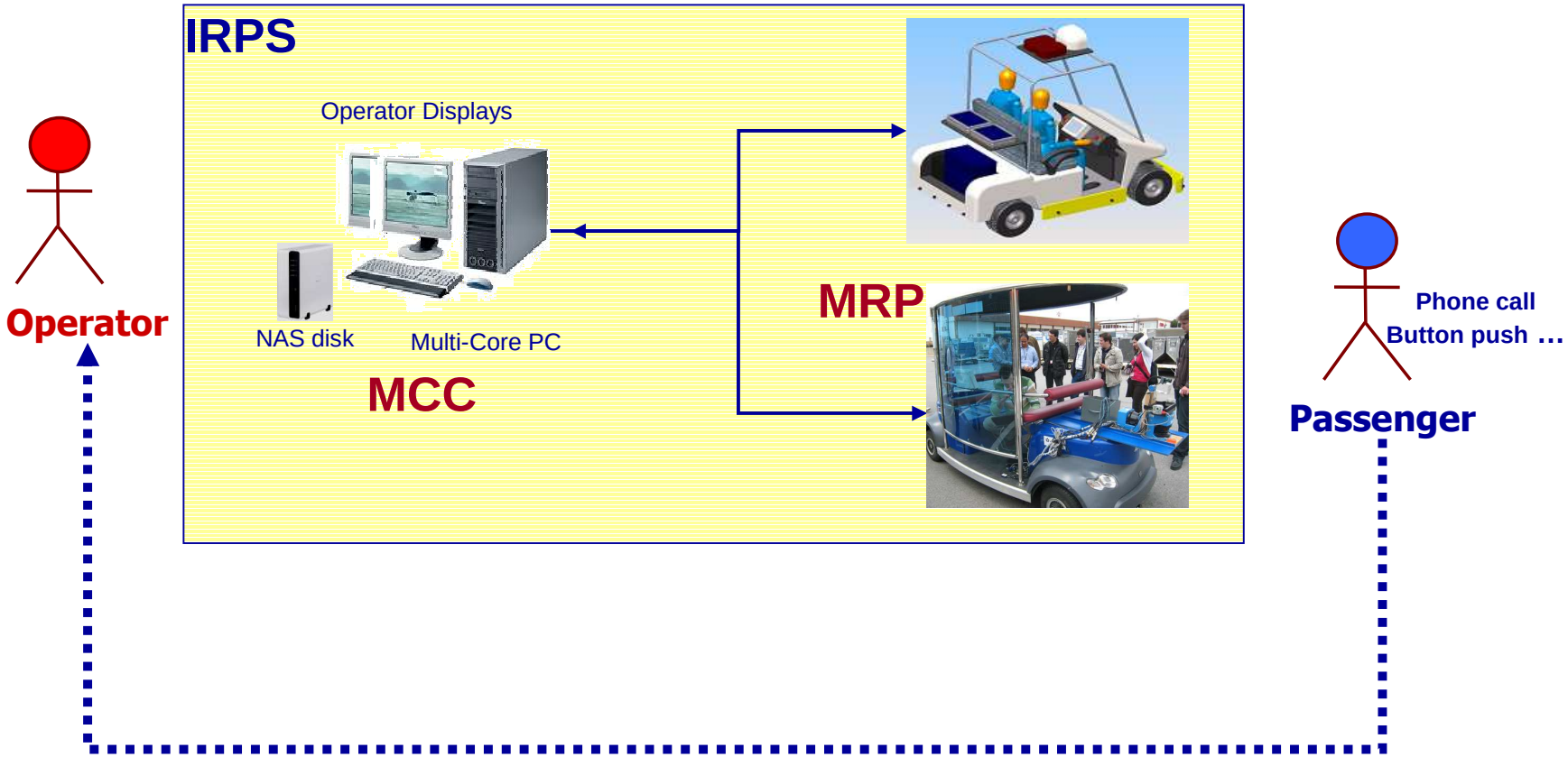
IRPS
Project Steering Committee Meeting #8
October 27th, 2008
PIAP, Warsaw

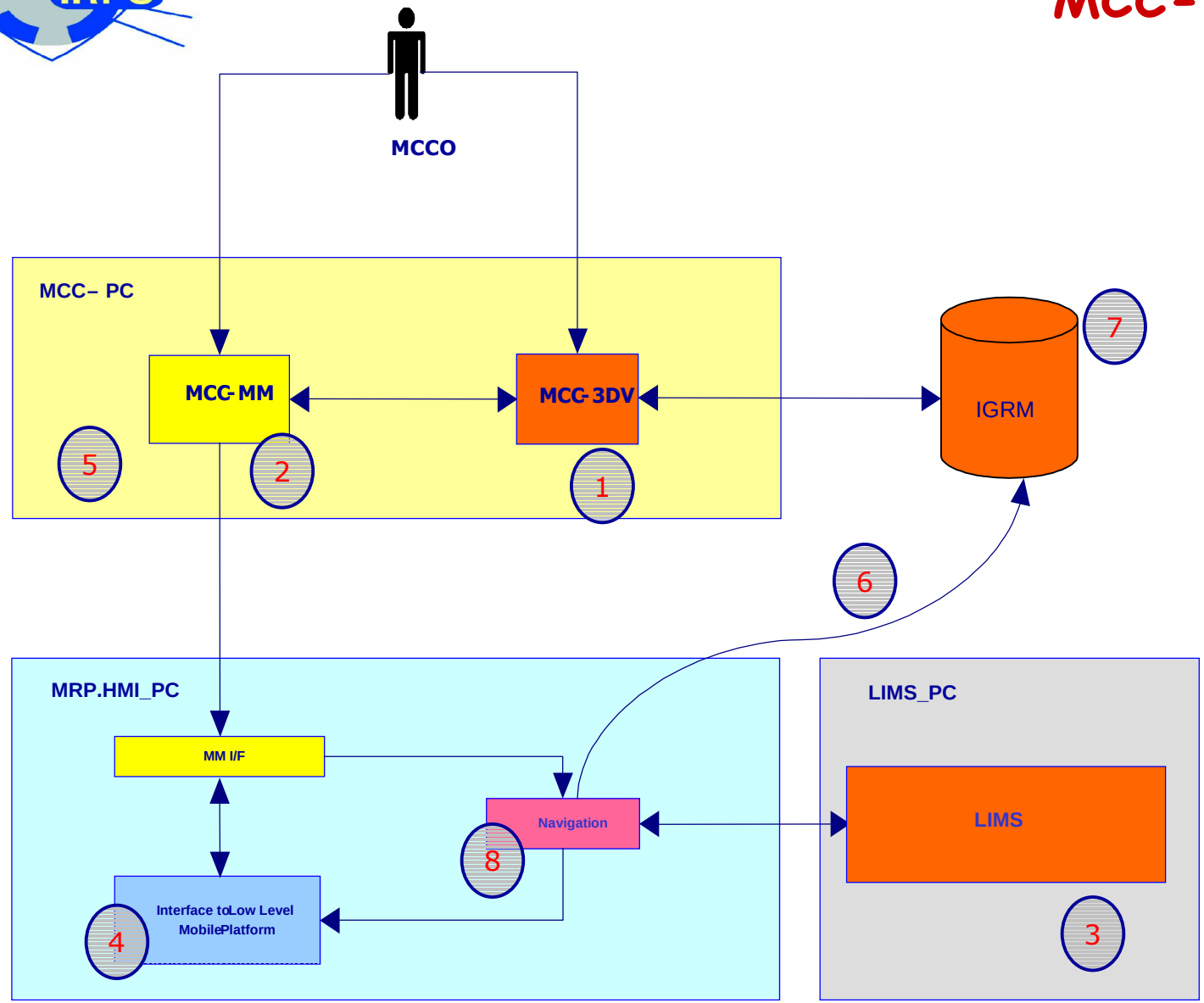
MCC Demonstrator Demo

- **Goal of this demonstrator ?**
  - Provide an IRPS simulator to validate concepts and integration for all partners
  - Corba integration
  - Progressive integration of modules
    - Integration of MM
    - Integration of 3DV
    - Integration of ILLP
    - Integration of NAV
  - Improve MCC GUIs & functionalities
- **Demonstration scenarios**
  - Toulouse test Data
  - FARO test Data

- MCC Operator manages Mobile Robotics Platforms (MRPs)
- help passenger by carrying them & their luggages from one place to another

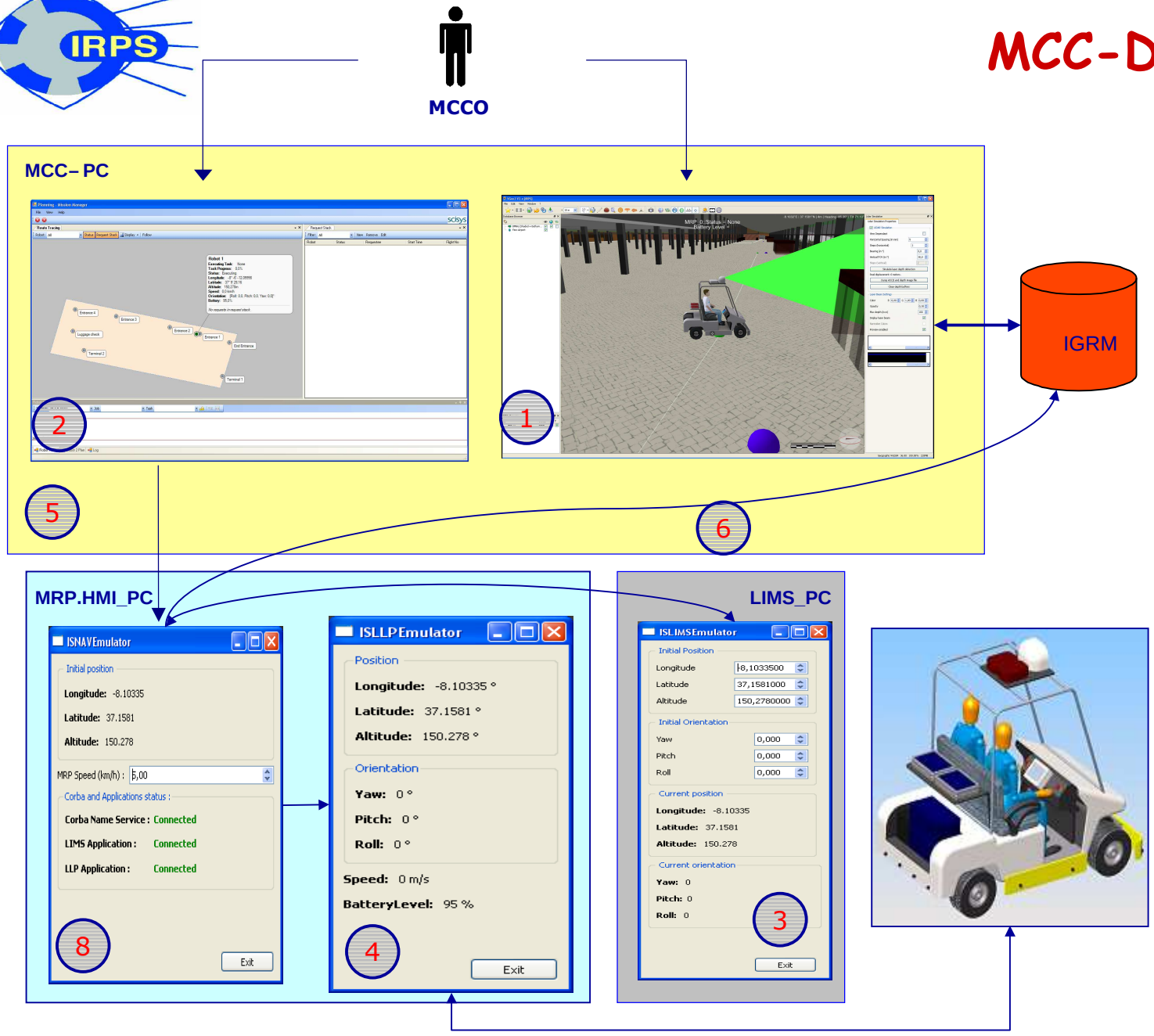


MCC-Demo.Architecture



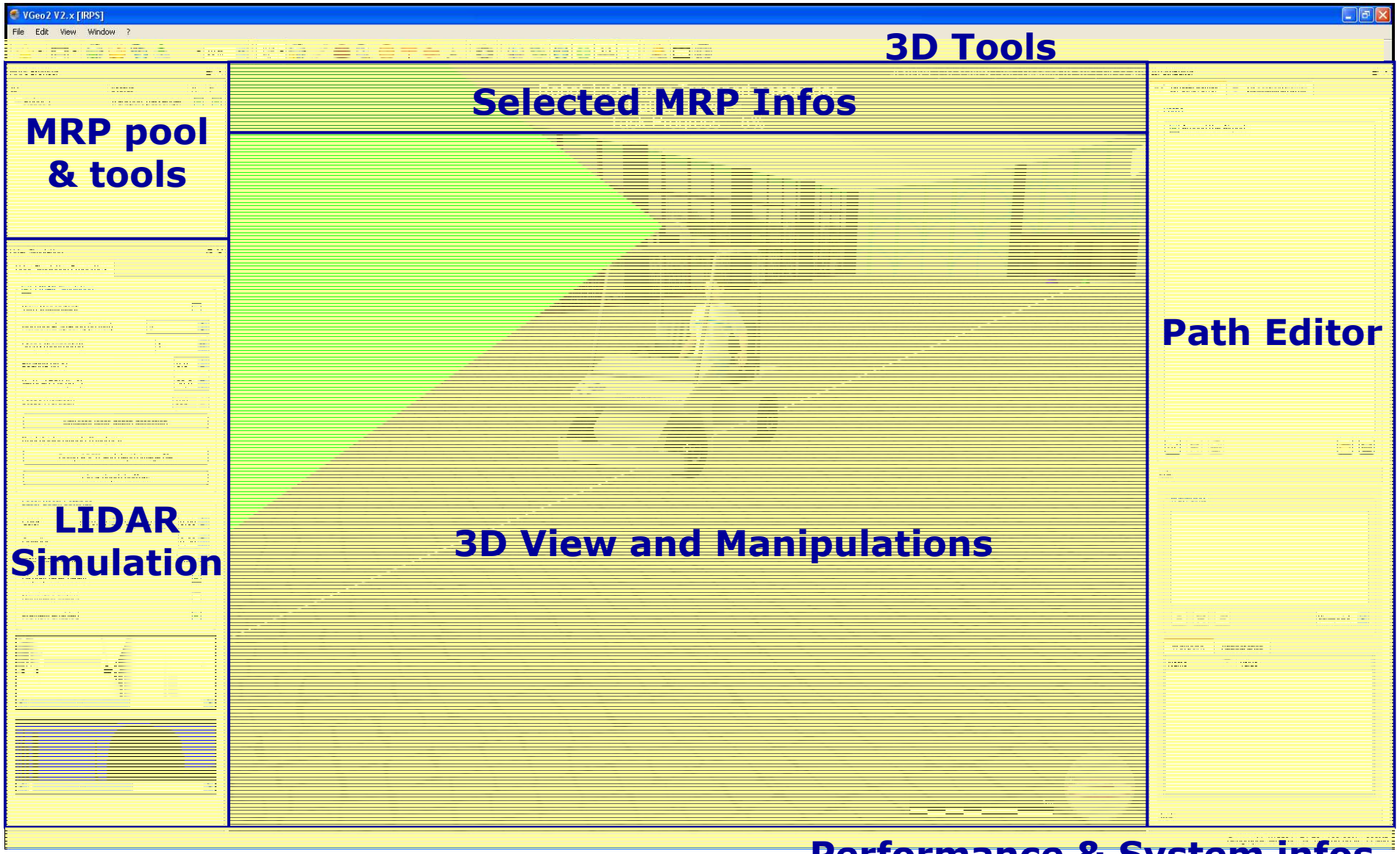
- 1 – 3D Visualisation
  - Visualise the environment
  - Define hotspots and paths
- 2 – Mission Manager
  - Mission planning
  - Start / Stop missions
- 3 – LIMS System
  - LIMS stub define position
  - NAV sends commands to ILLP
- 4 – ILLP
  - Receive NAV commands
  - Send status info to MM I/F
- 5 – MCC
  - Displays status info
- 6 – Change Detection
  - Detect changes in the environment
  - Send info to IGRM
- 7 – 3DV
  - Display the detected changes
- 8– NAV
  - Compute the trajectory of the MRP

MCC-Demo.Architecture

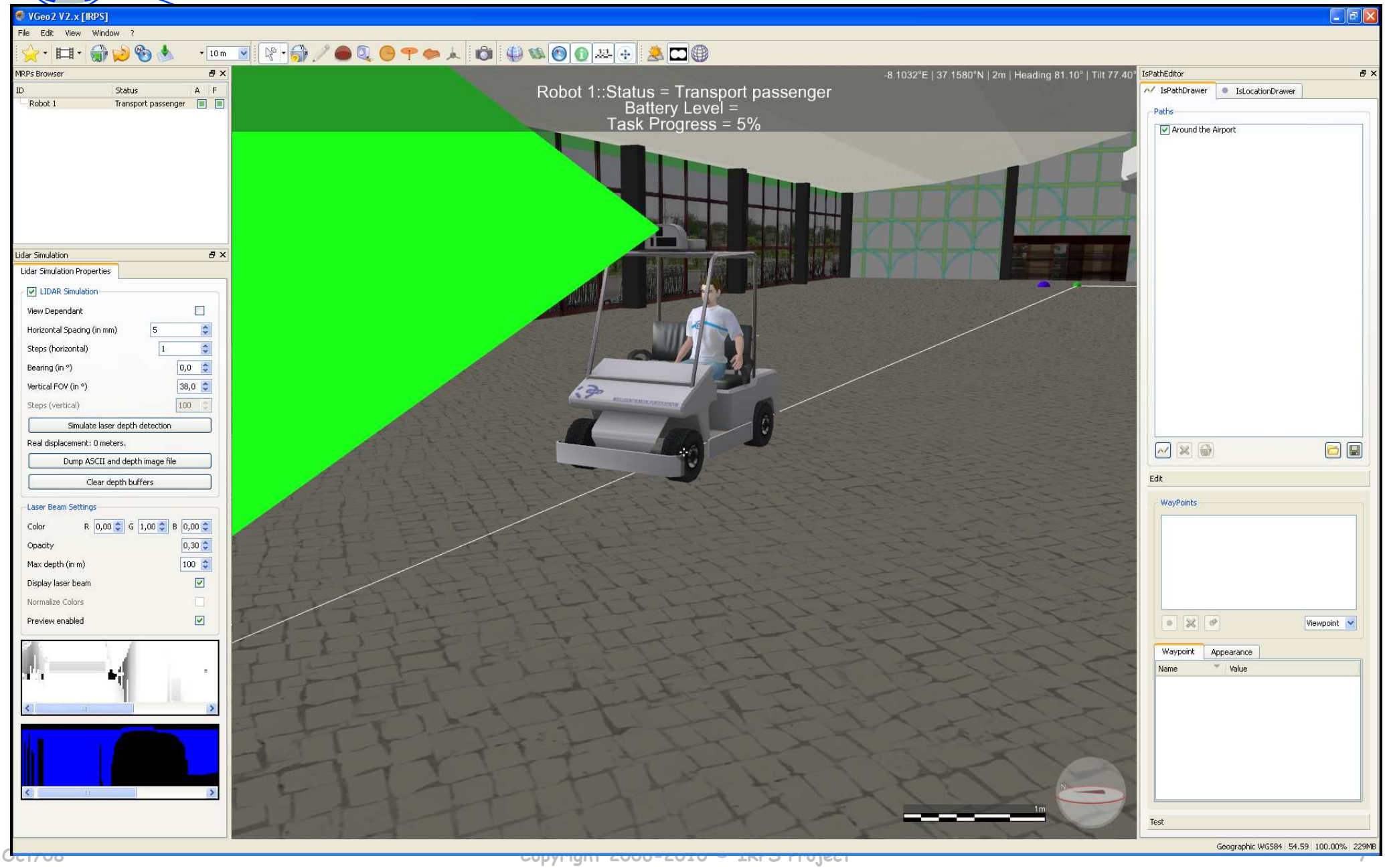


- 1 – 3D Visualisation
  - Visualise the environment
  - Define hotspots and paths
- 2 – Mission Manager
  - Mission planning
  - Start / Stop missions
- 3 – LIMS System
  - LIMS stub define position
  - NAV sends commands to ILLP
- 4 – ILLP
  - Receive NAV commands
  - Send status info to MM I/F
- 5 – MCC
  - Displays status info
- 6 – Change Detection
  - Detect changes in the environment
  - Send info to IGRM
- 7 – 3DV
  - Display the detected changes
- 8– NAV
  - Compute the trajectory of the MRP

MCC-Demo.3DV

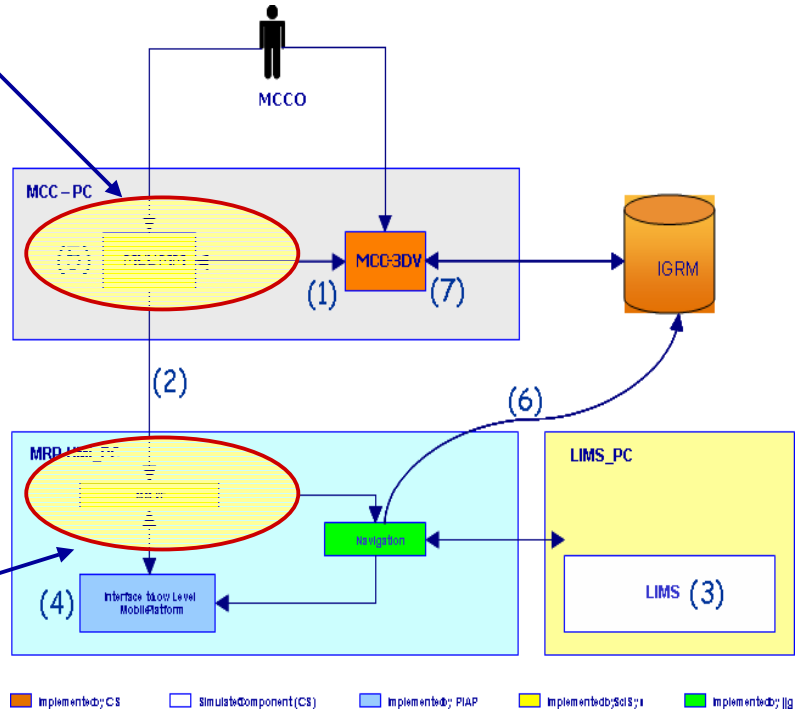


MCC-Demo.3DV



MCC-Demo.MM Module

- The Mission Manager (MM) manages a pool of MRPs, collects locations and status from MRPs and allocates plans.
- Operator uses planning or monitoring views to create plans, service user requests and monitor progress of each MRP.
- The MCC-MM Communicates with the MRP-MM on each MRP to distribute plans and query for status.
- The MRP-MM is the high-level control element of the MRP architecture implemented as a Java application



MCC-MM Planning Interface

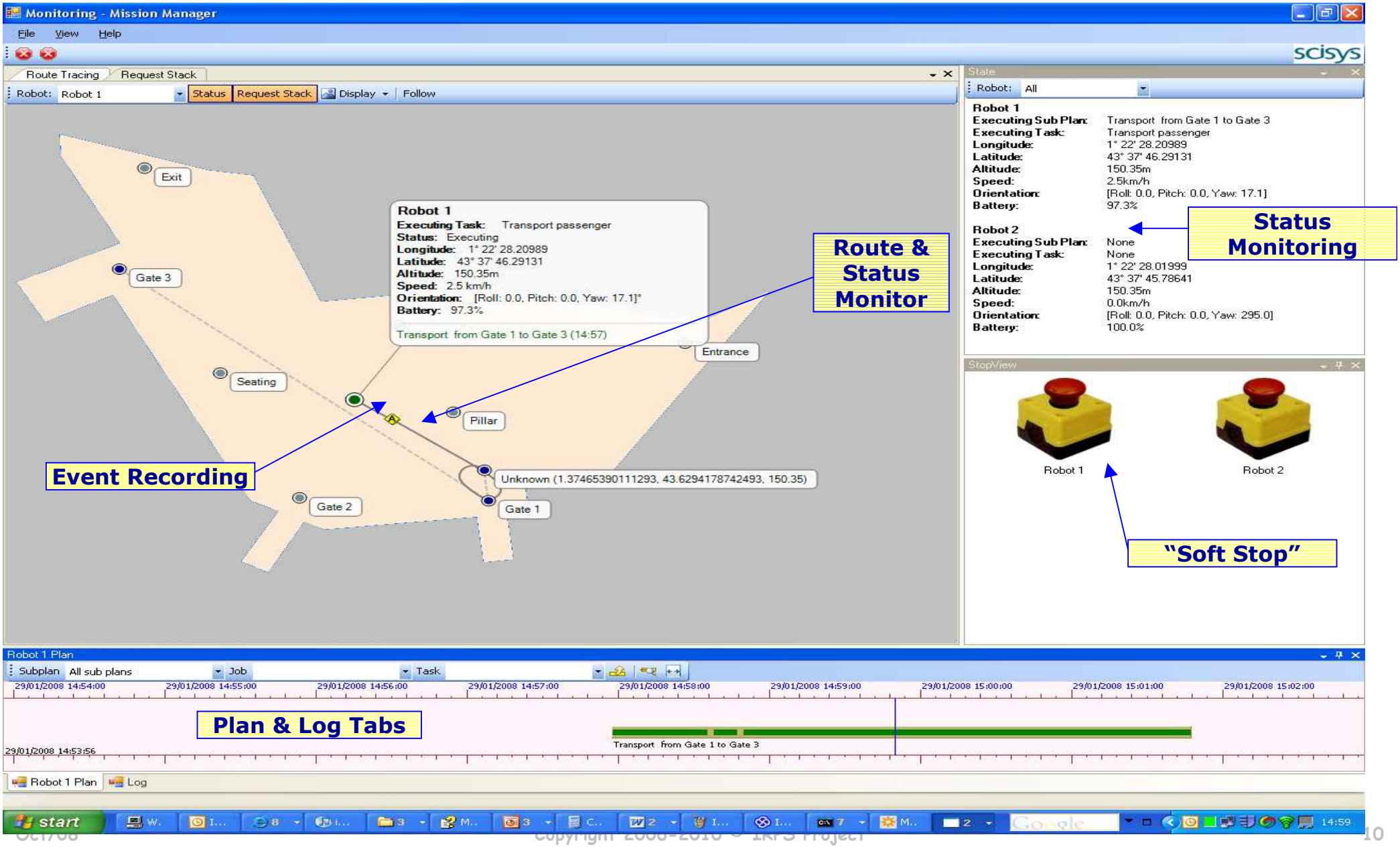
Configurable Views

Route Planning View

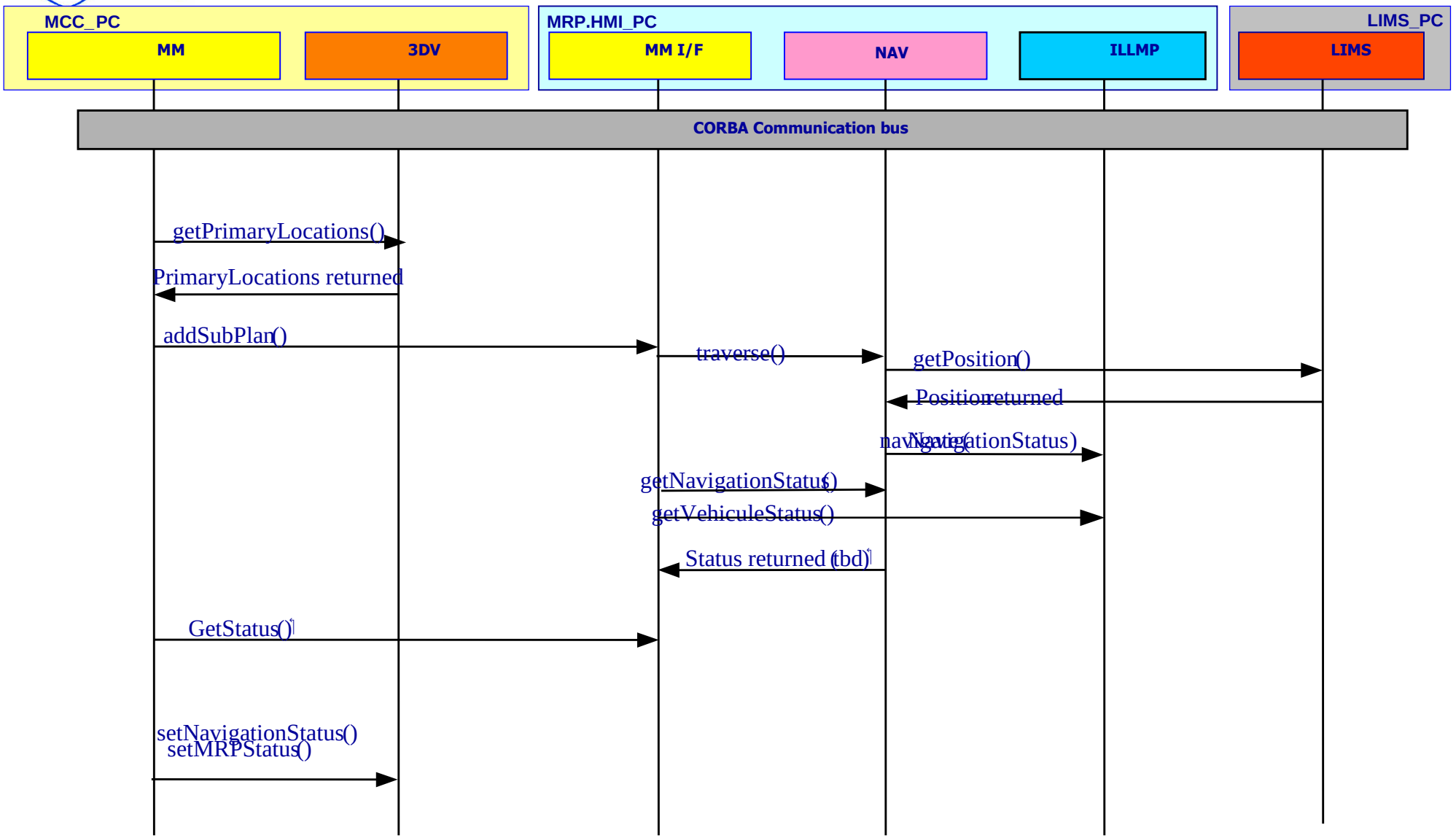
Planning/Request Wizard

Gantt Plan View

MCC-MM Monitoring Interface



MCC-Demo Sequence Diagrams



MCC-Demo.Change Detection

- **Change Detection**
  - NAV or LIMS sends to IGRM bounding spheres of detected changes
  - 3DV displays the sphere