

## MISSION MANAGER (Orchestrator)

State Management  
(IDLE→ARM→TAKEOFF→EXECUTE→LAND)

### GLOBAL BASE STATION - 4 Module Pipeline (Ground)

Mapping Module  
(POI Detection)

Task Allocation  
(Drone Assignment)

Path Planner  
(A→B Routing)

Commander  
(Executor)

- ROS2 Topics & Services
- /points\_of\_interest (POIArray) - Mapping output
  - /obstacle\_map (OccupancyGrid) - Mapping output
  - /task\_assignments (TaskArray) - Task Allocation output
  - /path\_plan (Path) - Path Planner output
  - /drone\_position (Point) - Telemetry
  - /mission\_state (String) - Mission Manager state

digi\_rc (Communication Interface)  
MAVSDK / MAVLink Protocol

Drone 1  
(Simulated)

Drone 2  
(Simulated)

Drone N  
(Simulated)

- Gazebo 3D Visualization & Physics Engine
- Environment rendering
  - Obstacle detection & collision
  - Path visualization (markers/lines)

