Block 1

Please read the following scenario description carefully and answer the questions based on your understanding:

There are 3 parts in total in this quiz. You must pass all questions in part 1 and part 2.

Part 1 - Task understanding
Part 2 - Simulation understanding
Part 3 - Expertise level assessment

Part 1 - Task understanding

What is the primary objective of the robot in the simulated tunnel environment? **(single choice)**

- ◯ Collecting objects
- ◯ Exploring as much of the environment as possible
- ◯ Mapping the environment

- ◯ Repairing obstacles

What role do you (participant) play in the experiment? **(multi-choices)**

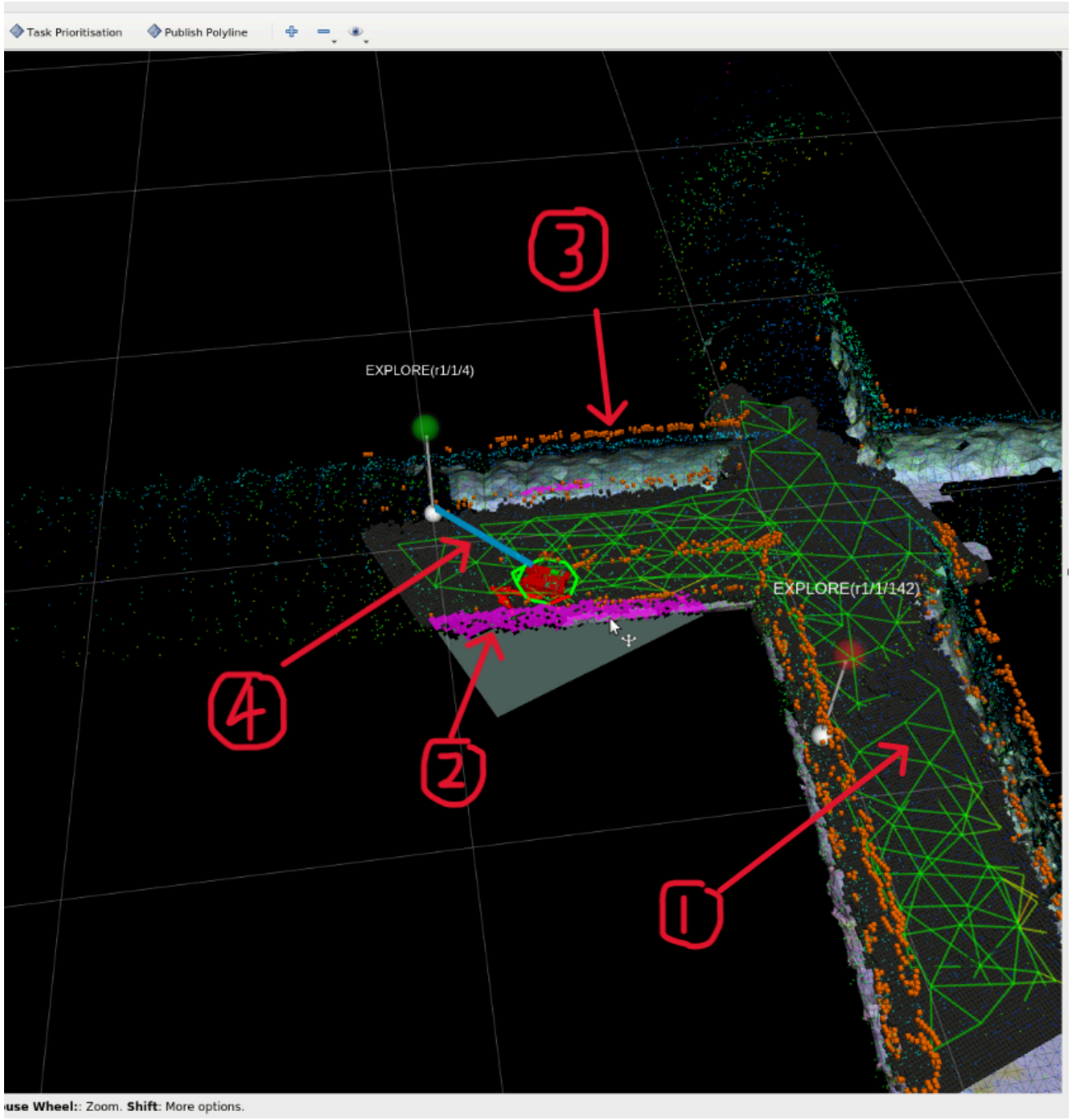
- ☐ Operating the robot
- ☐ Observing the robot's movements
- ☐ Providing assistance to the robot by setting waypoints
- ☐ Analyzing the collected data

When should you (participant) intervene during the experiment? **(multi-choices)**

- ☐ At the beginning of the task
- ☐ When the robot appears to be stuck or unable to progress
- ☐ When the robot revisits an area it has already explored
- ☐ When the robot's behavior indicates a need for assistance, according to your judgment
- ☐ When you feel tired or fatigued
- ☐ When you want to show off their knowledge of robotics
- ☐ Whenever you feel like it, without any specific reason.

Default Question Block

Part 2 - Simulation understanding


Task Prioritisation
Publish Polyline
EXPLORE(r1/1/4)
EXPLORE(r1/1/142)
3
4
2
1
use Wheel:: Zoom. Shift: More options.

What does the green graph (annotated as 1 in above figure) on the ground represent in the simulation? **(single choice)**

- ◯ Local costmap
- ◯ Global costmap
- ◯ Global height map
- ◯ Topograph

What does the pink block (annotated as 2 in above figure) represent in the simulation? **(single choice)**

- ◯ Local costmap
- ◯ Global costmap
- ◯ Global height map
- ◯ Topograph
- ◯ Task path

Which element is represented by the orange block (annotated as 3 in above figure) in the simulation? **(single choice)**

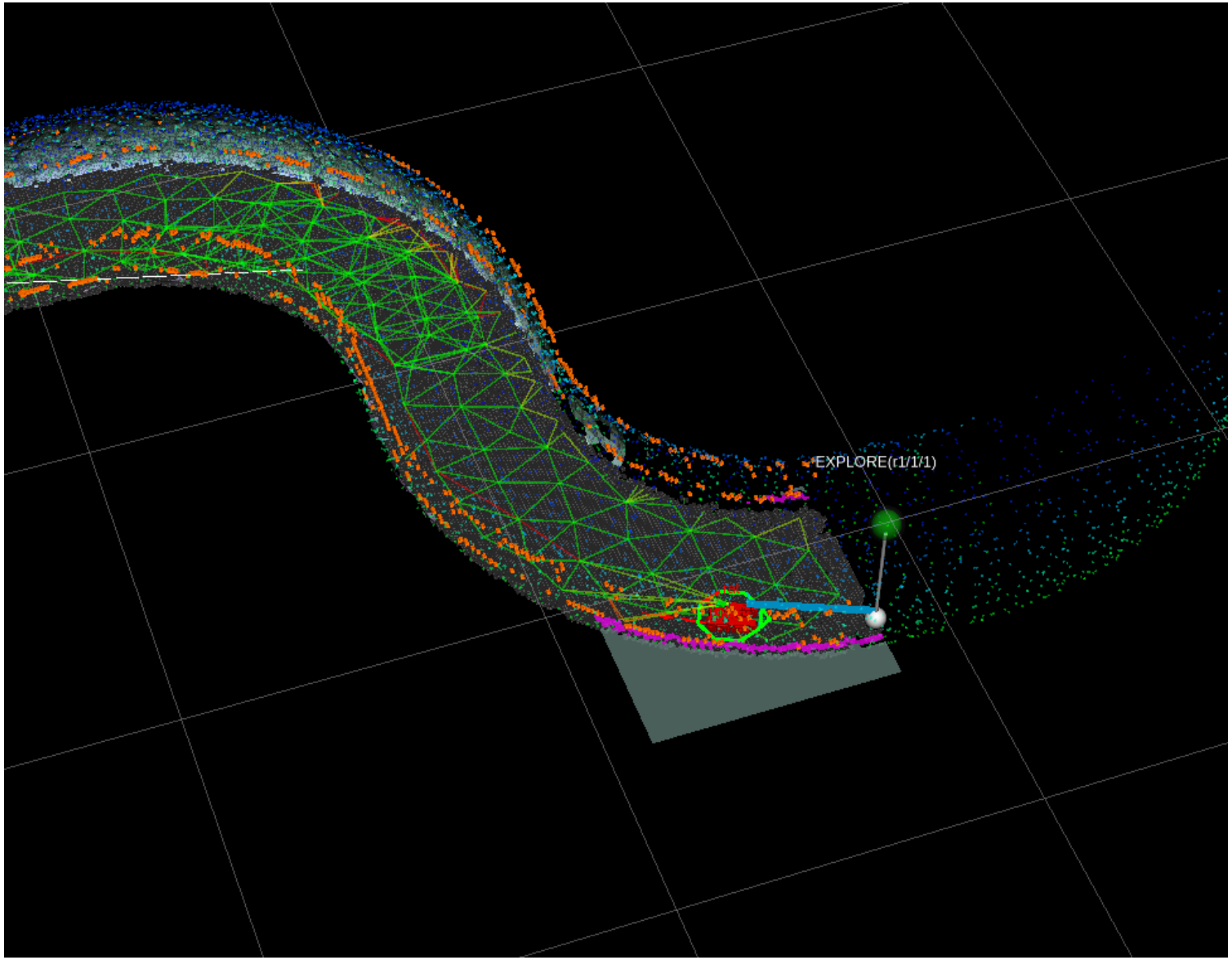
- ◯ Local costmap
- ◯ Global costmap
- ◯ Global height map
- ◯ Topograph
- ◯ Task path

What does the blue line (annotated as 4 in above figure) connecting the robot and explore node represent? **(single choice)**

- ◯ Local costmap
- ◯ Global costmap
- ◯ Global height map
- ◯ Topograph
- ◯ Task path

Block 2

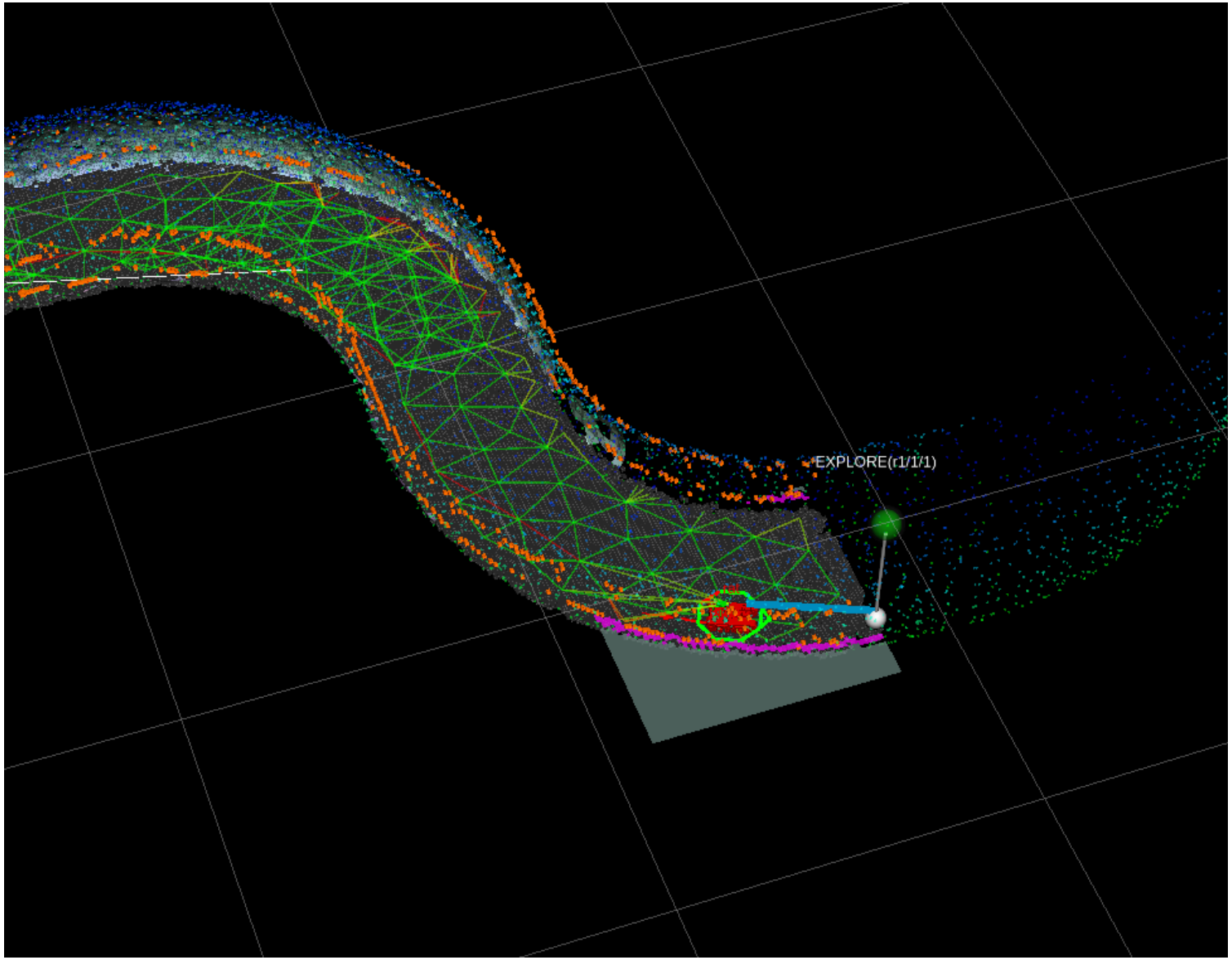
Part 3 - Expertise level assessment



If you (participant) observe a blue line (task path) connecting the robot and explore node, what information does it convey? **(multi-choices)**

- [ ] The robot's current position

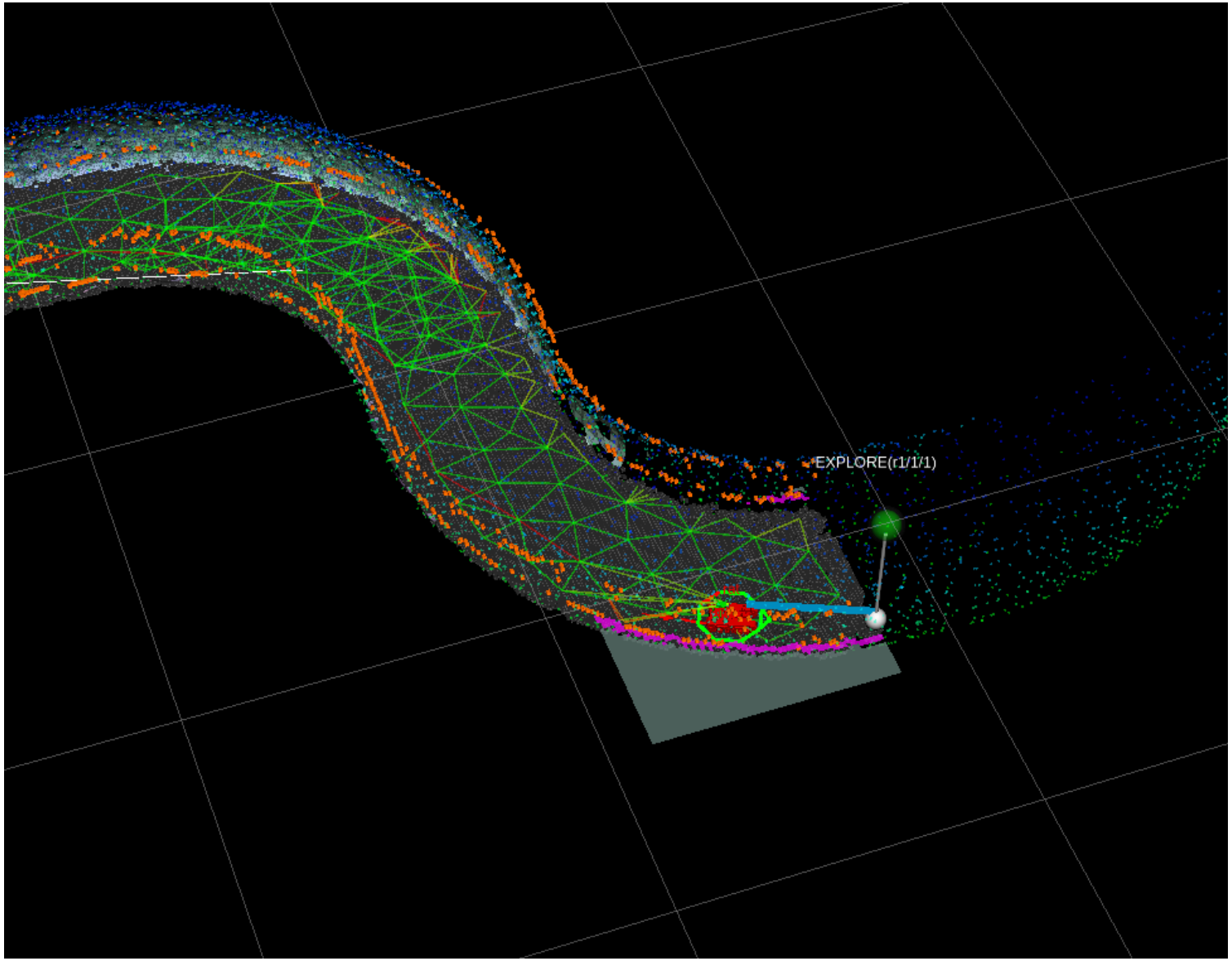
- [ ] The path taken by the robot to reach the explore node
- [ ] The obstacles detected by the robot
- [ ] The global height map
- [ ] The task currently being executed by the robot



What is the purpose of the topograph (topological graph) in the simulation? **(multi-choices)**

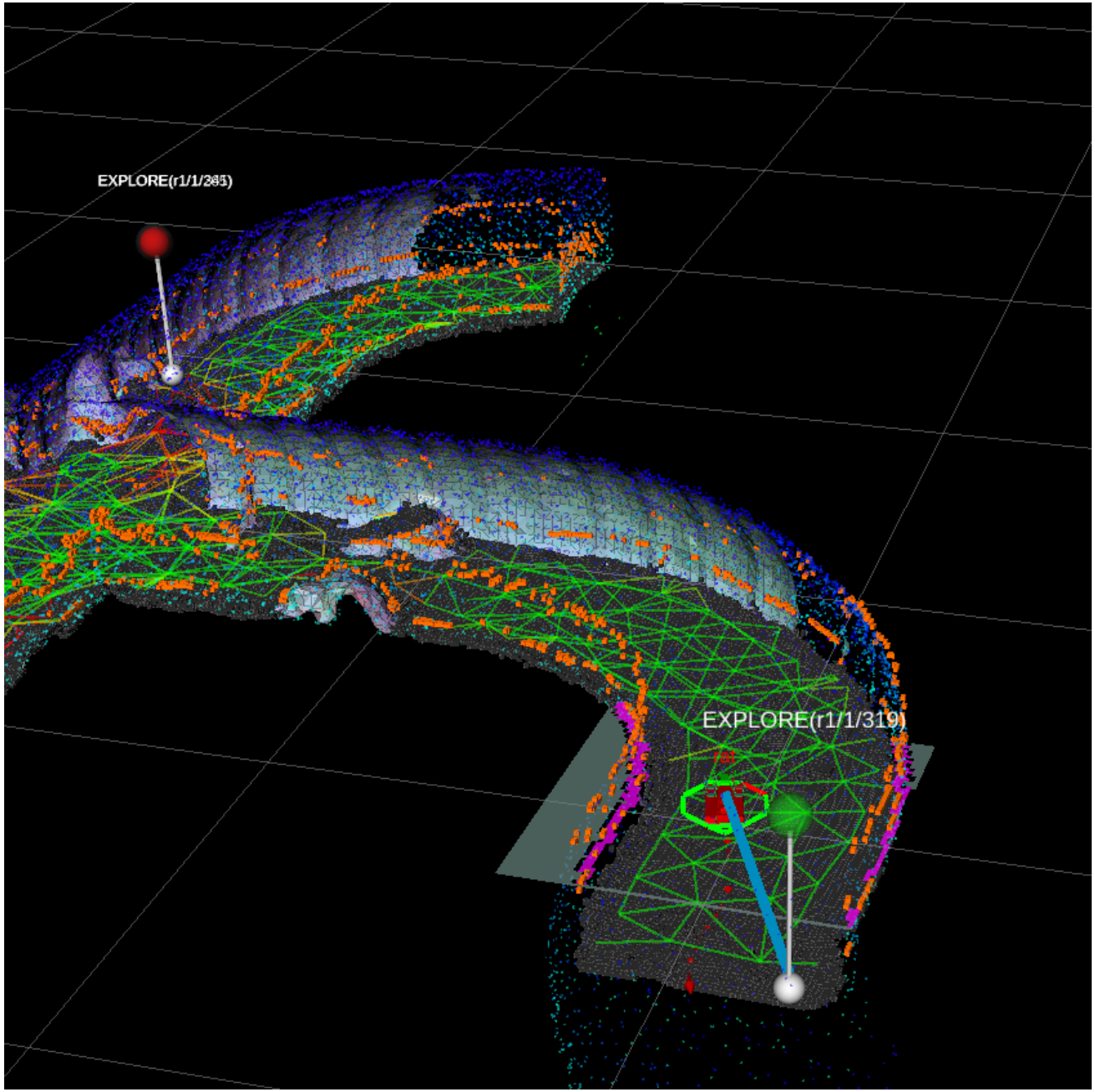
- [ ] Represents obstacles in the robot's surroundings
- [ ] Provides a localized representation of the environment
- [ ] Visualizes the overall structure and connectivity of the environment

- [ ] Indicates the planned path for the robot's exploration
- [ ] Provide an understanding of the traversability of the environment



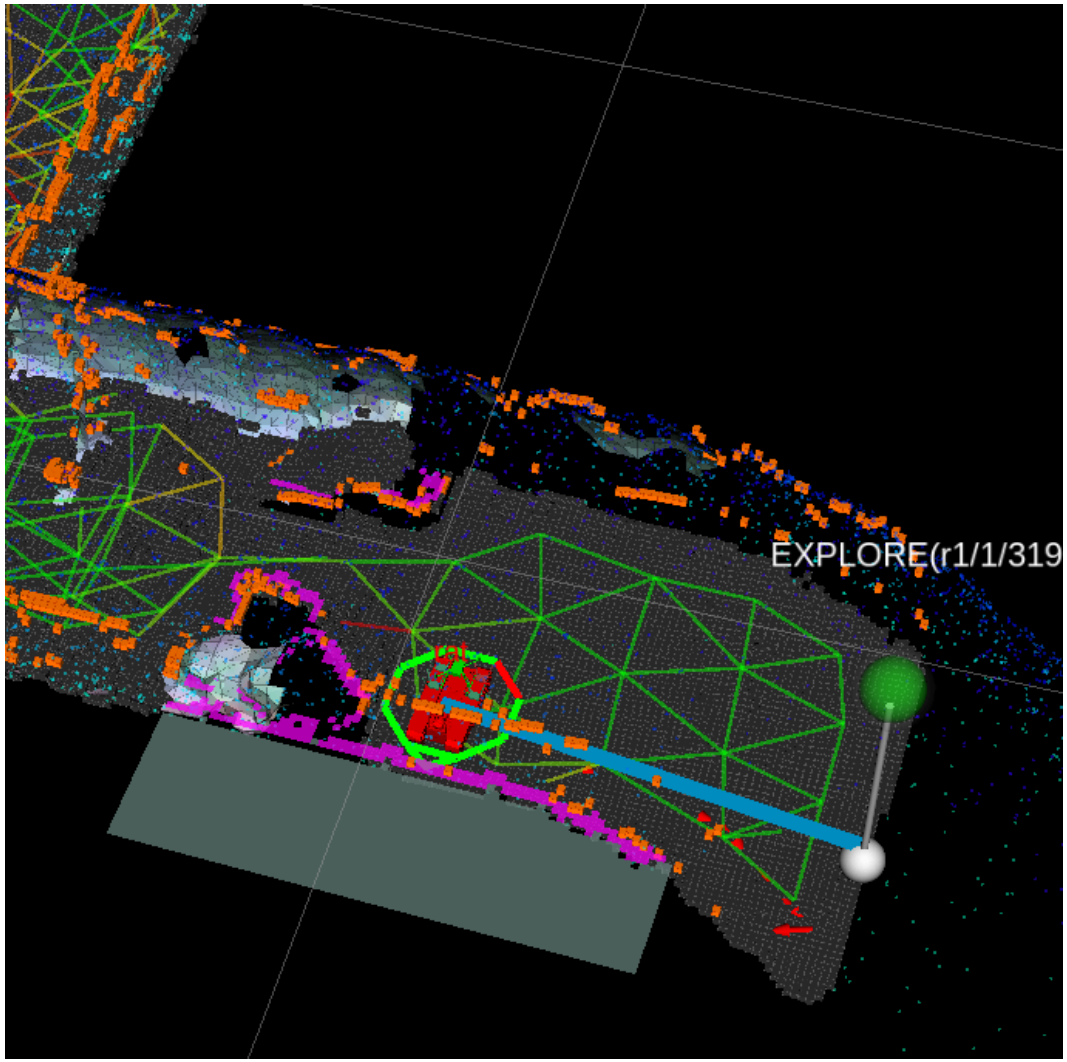
How does the local costmap help you in the simulation? **(single choice)**

- ◯ By showing the robot's speed
- ◯ By giving details about faraway objects
- ◯ By providing a map of the whole environment
- ◯ By showing obstacles close to the robot



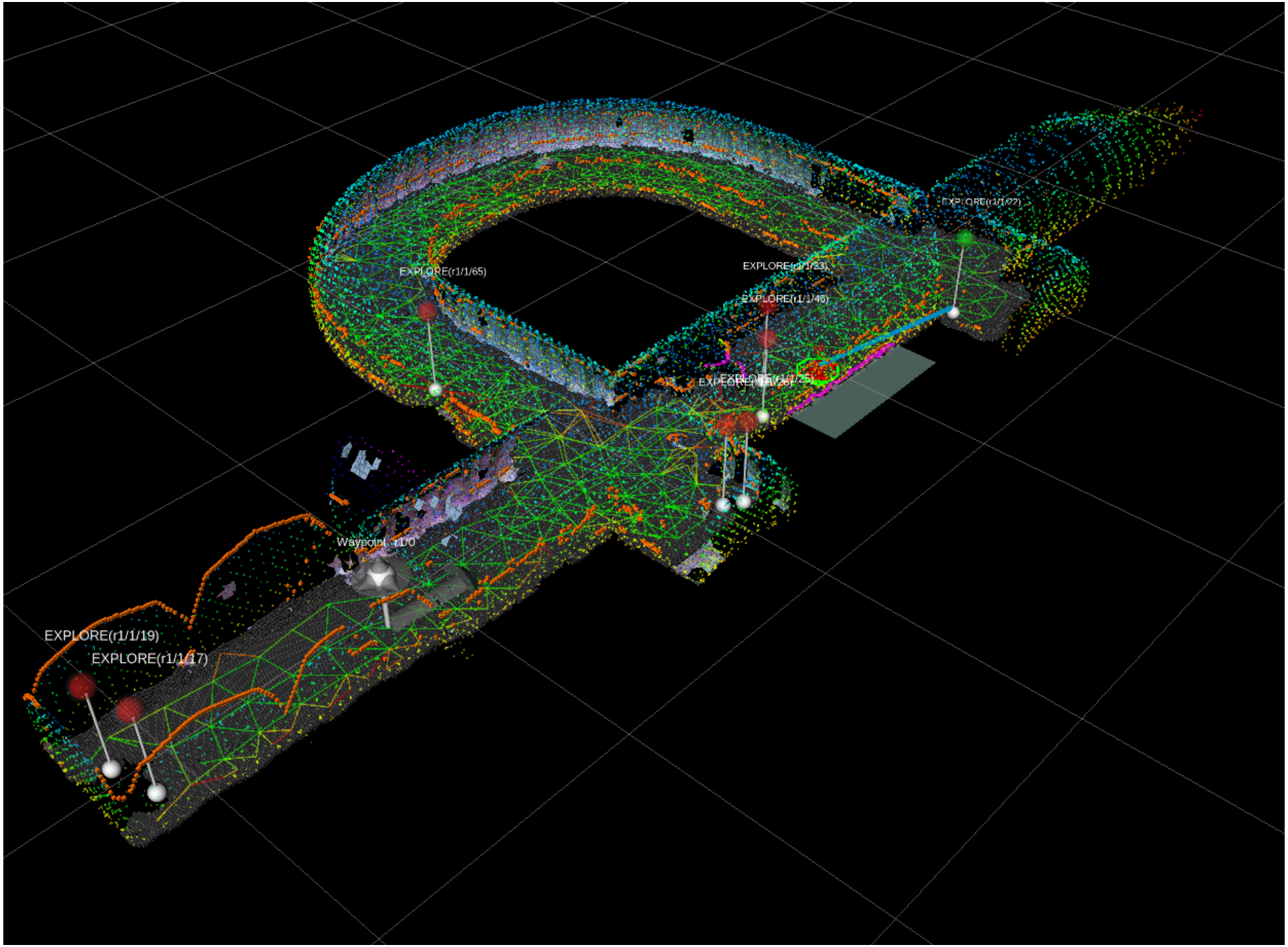
What role does the global height map play in the simulation? **(single choice)**

- ◯ Indicates the planned path for the robot's exploration
- ◯ Provides information about elevation variations across the environment
- ◯ Represents the abstract layout of the environment
- ◯ Visualizes the overall structure and connectivity of the environment



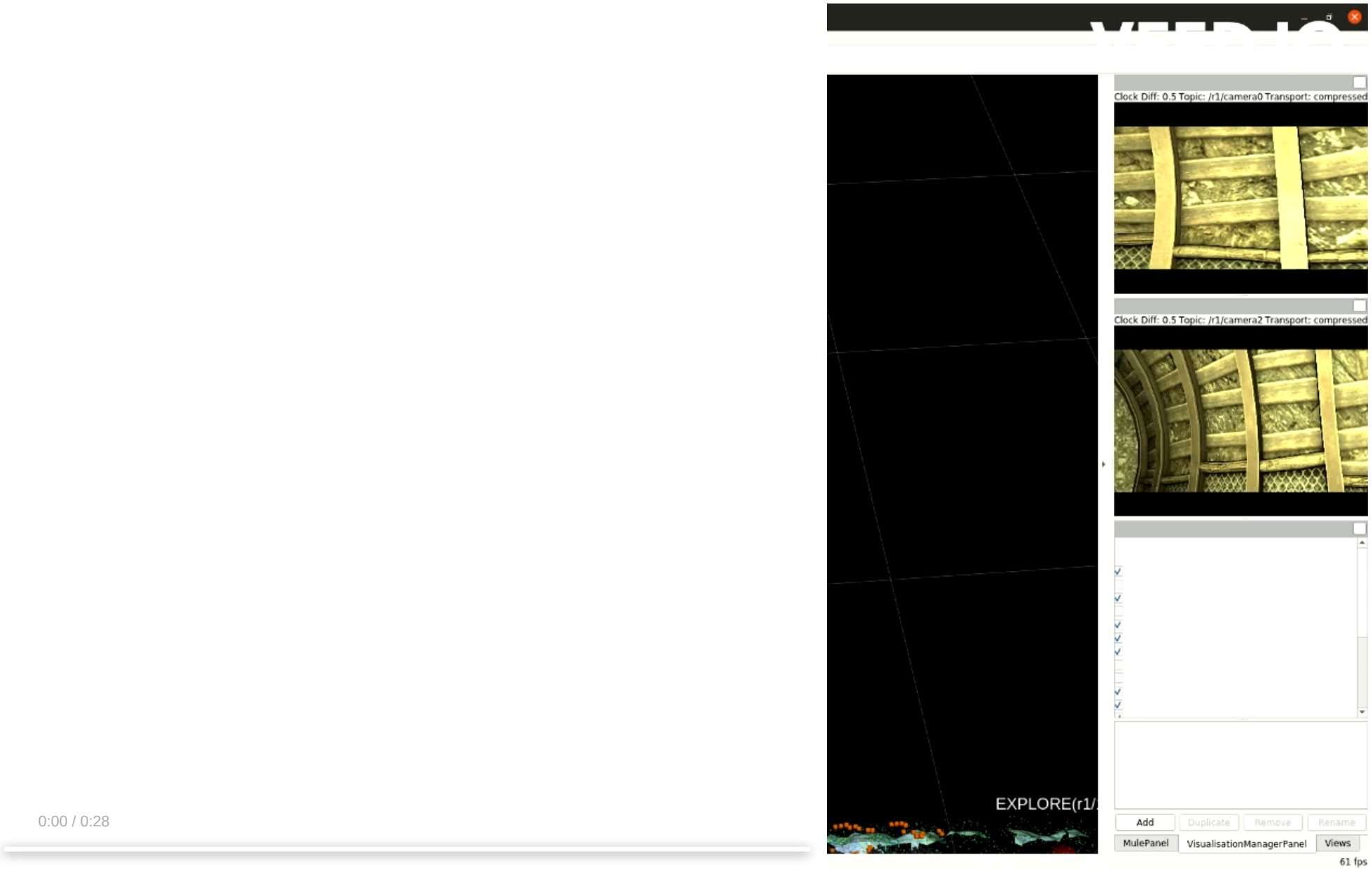
Which component of the simulation enables you to assess obstacles in the robot's immediate surroundings? **(single choice)**

- ◯ Global height map
- ◯ Task path
- ◯ Topograph (topological graph)
- ◯ Local costmap


EXPLORE(r1/1/65)
EXPLORE(r1/1/23)
EXPLORE(r1/1/46)
EXPLORE(r1/1/25)
Waypoint(r1/0
EXPLORE(r1/1/19)
EXPLORE(r1/1/17)

Do you think the robot has explored all area? **(single choice)**

- ◯ Yes
- ◯ No



What the robot is doing now? **(multi-choices)**

- [ ] Encountering a dead end during exploration.

- [ ] Quickly moving away.
- [ ] Investigating a malfunction
- [ ] Gathering data on its surroundings