

# ROBOCUP@SPACE



A PROPOSAL BY THE CONSTRUCT  
(IN ALPHA STATE)



The Construct  
Just Simulate

# WHY?





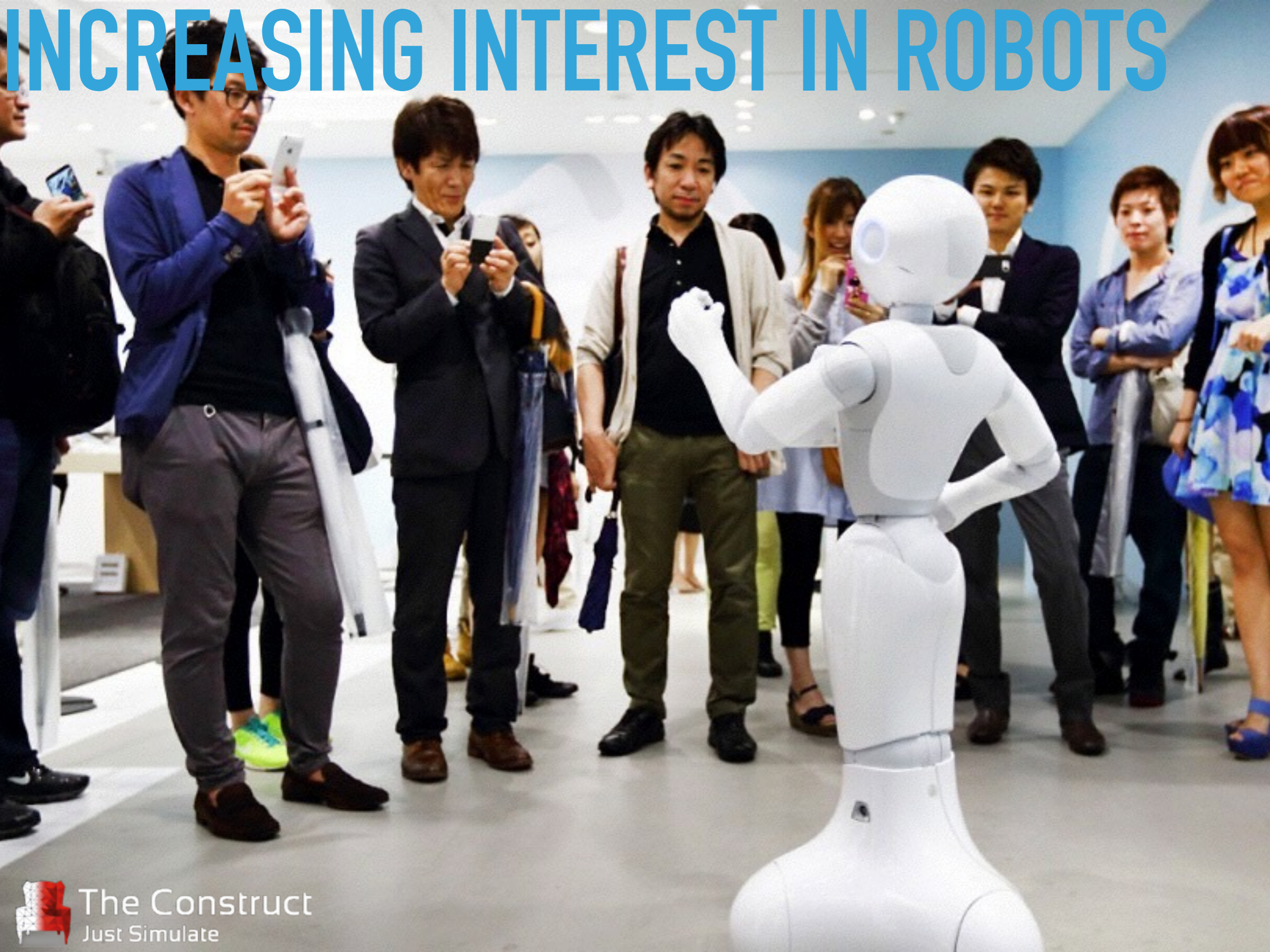
# INCREASING INTEREST IN SPACE



The Construct  
Just Simulate



# INCREASING INTEREST IN ROBOTS





# NASA SPACE CHALLENGE

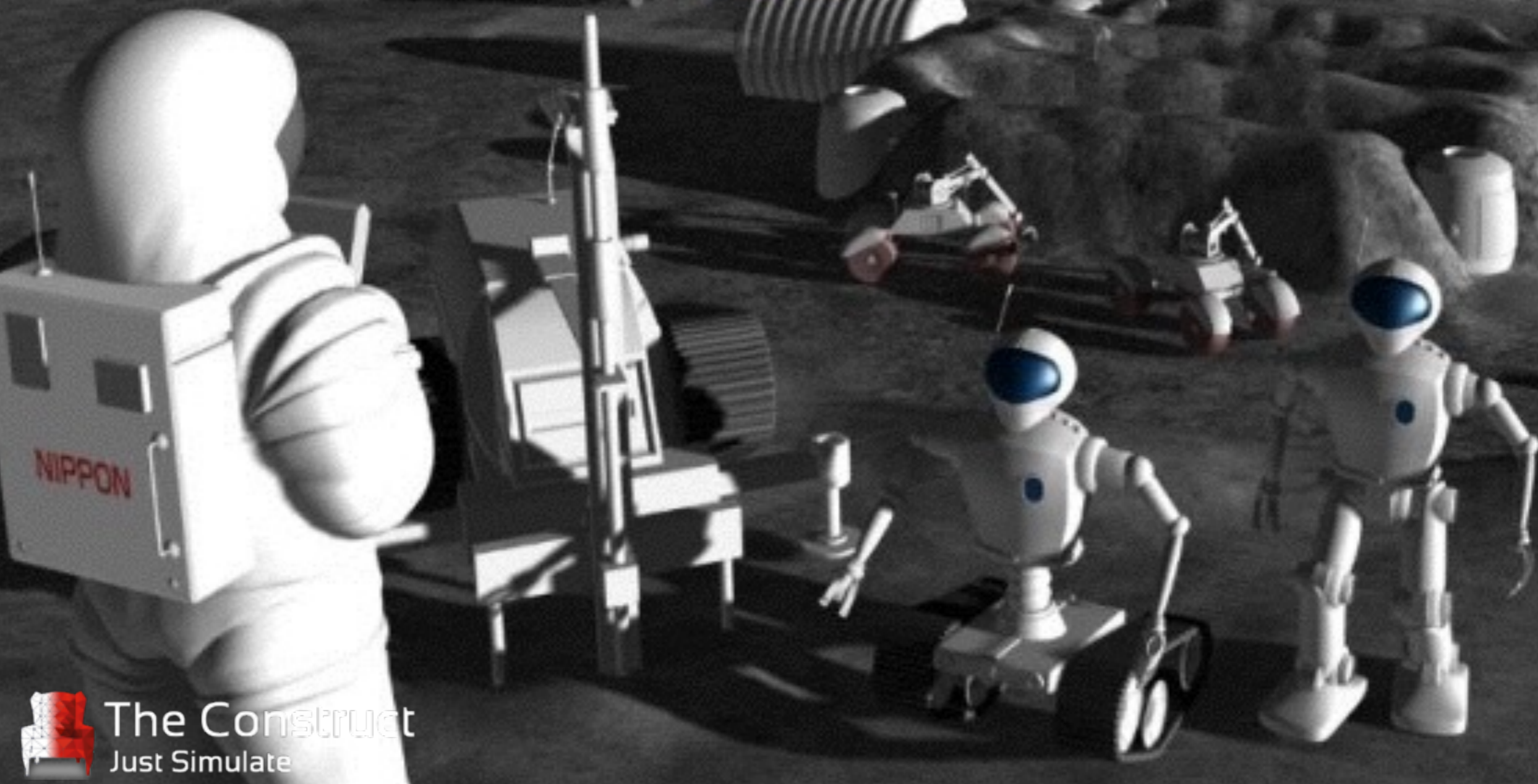


The Construct  
Just Simulate



GOAL OF THE COMPETITION

ROBOTS THAT DO USEFUL  
THINGS IN SPACE (FOR HUMANS)



The Construct  
Just Simulate

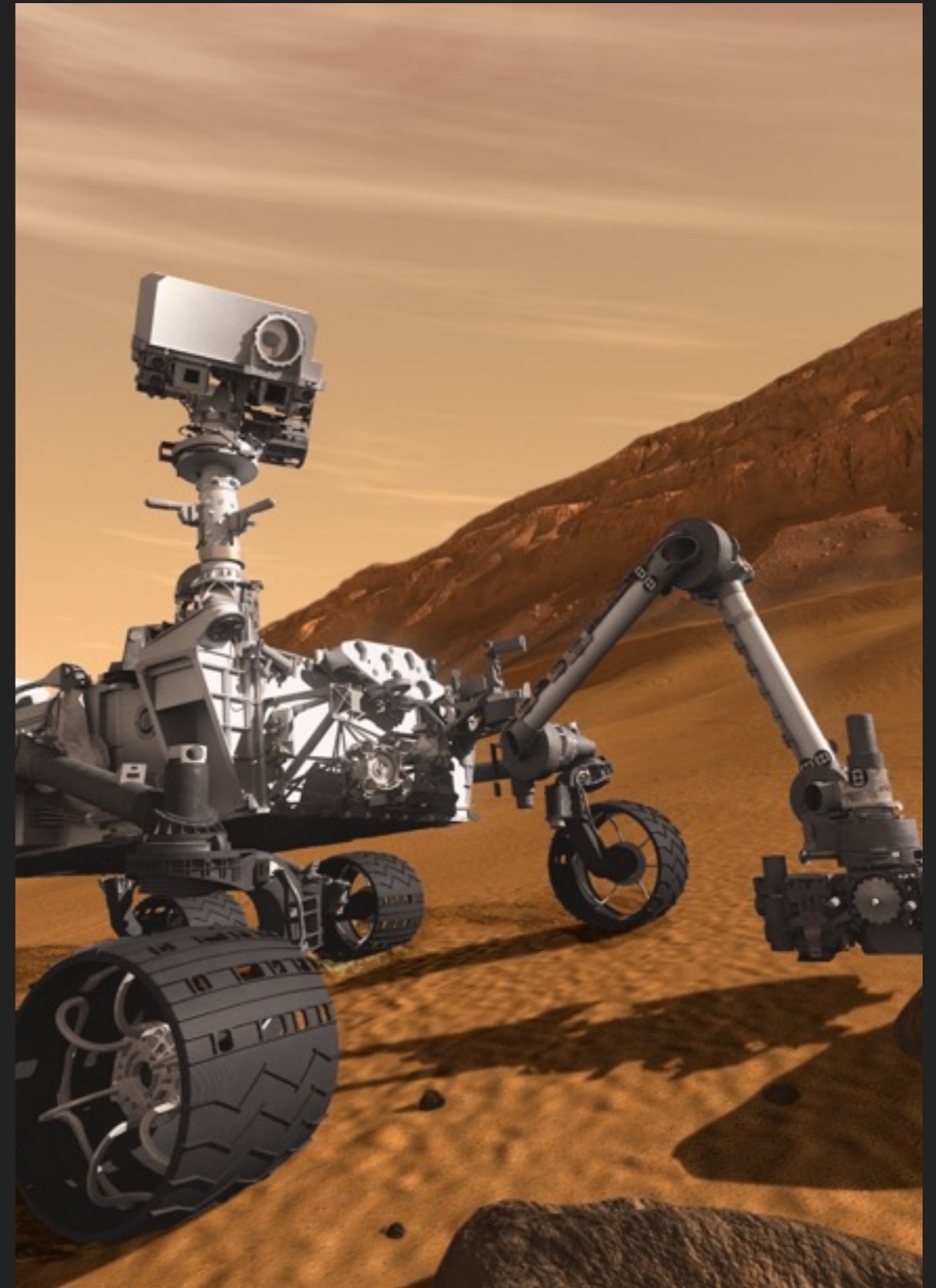
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## BASIC QUESTIONS WE ASKED OURSELVES

- ▶ Where can robotics provide help in space?
- ▶ One robot or several?
- ▶ One environment or several?

# ANSWERS WE GOT

- ▶ Help on the planet:
  - ▶ Planetary rovers





# ANSWERS WE GOT

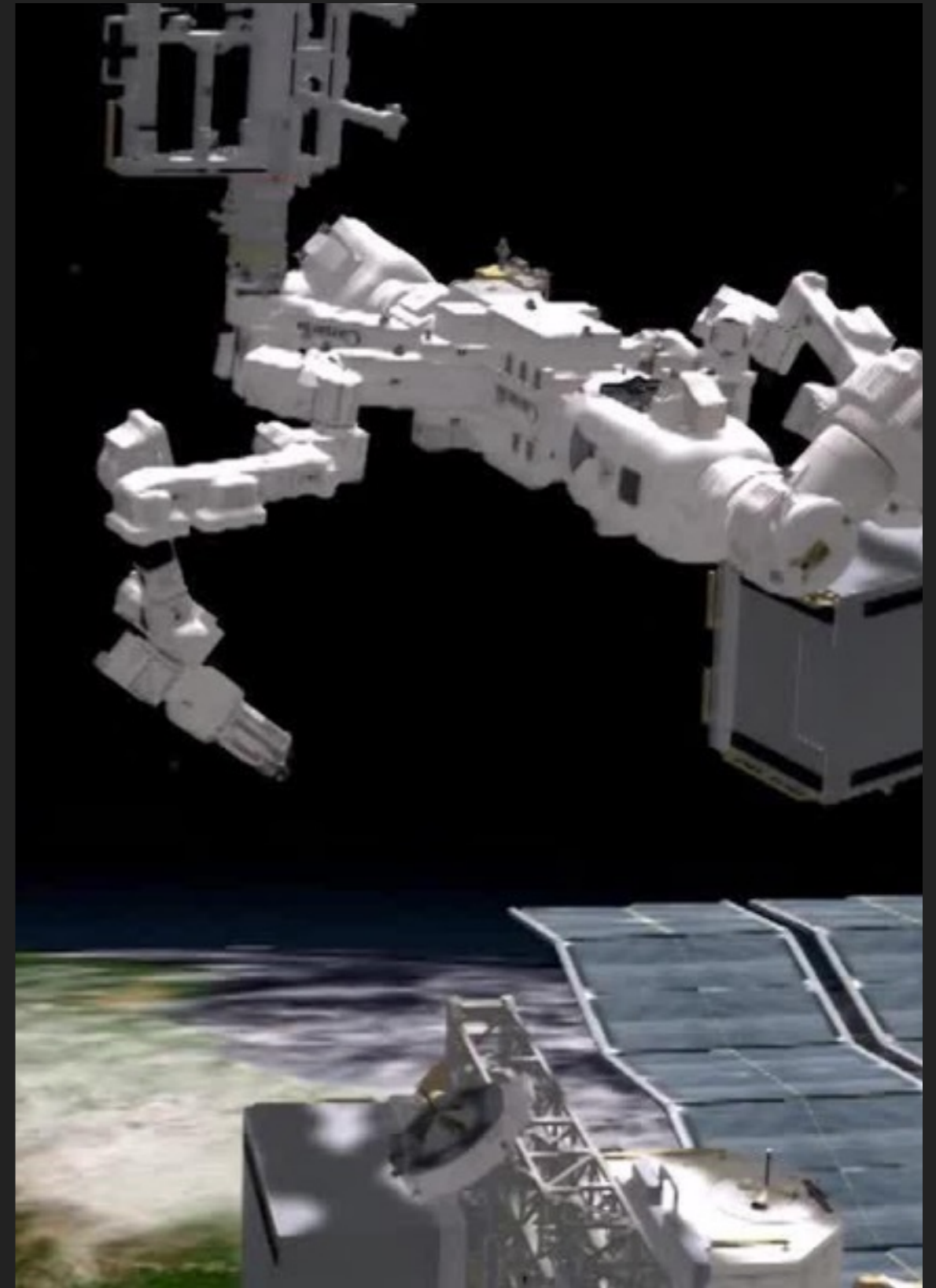
- ▶ Help on the planet:
  - ▶ Planetary rovers
  - ▶ Humanoids





# ANSWERS WE GOT

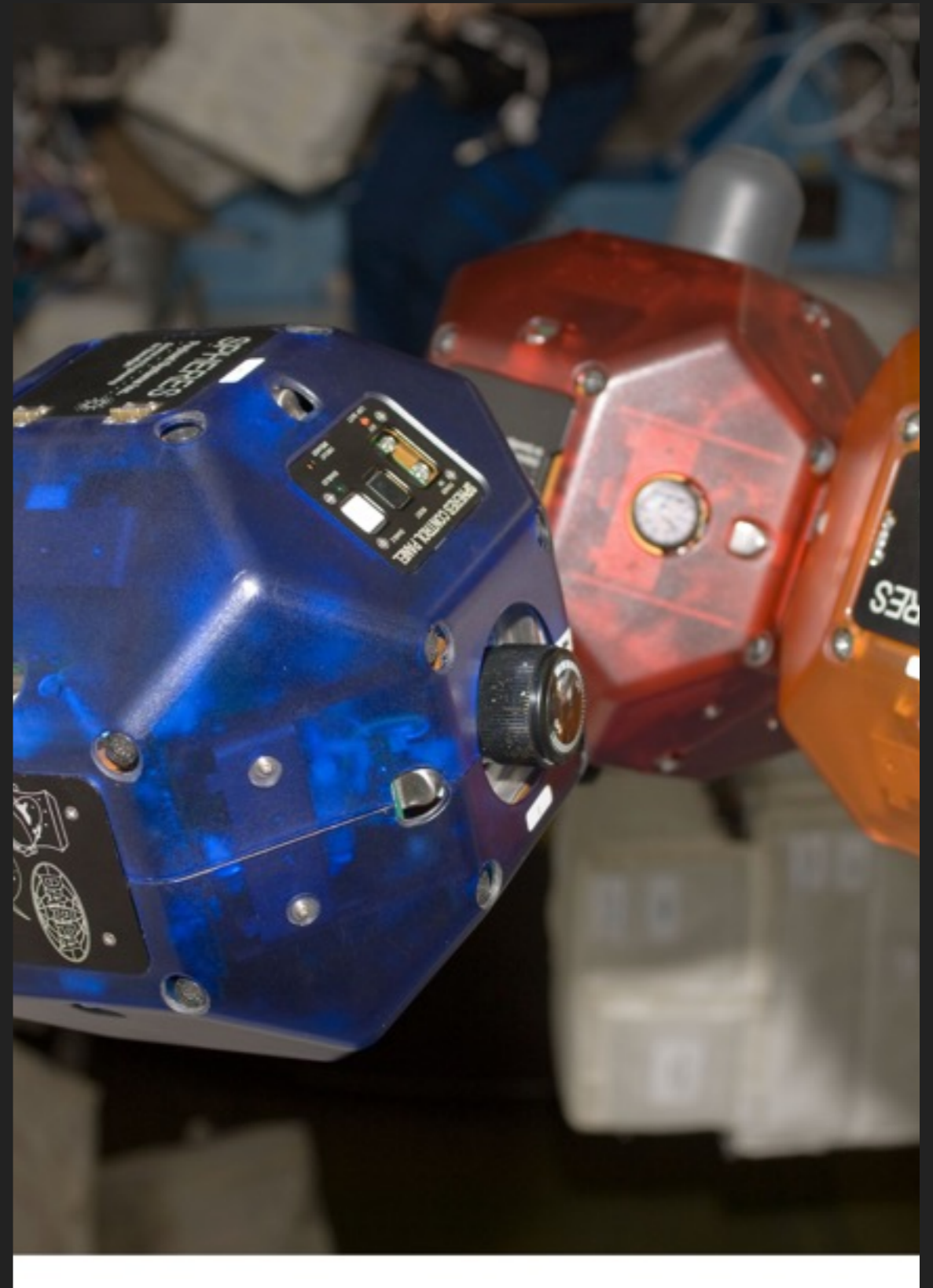
- ▶ Help on the planet:
  - ▶ Planetary rovers
  - ▶ Humanoids
- ▶ Help on space:
  - ▶ Robotic arms





# ANSWERS WE GOT

- ▶ Help on the planet:
  - ▶ Planetary rovers
  - ▶ Humanoids
- ▶ Help on space:
  - ▶ Robotic arms
  - ▶ Spheres





# ANSWERS WE GOT

- ▶ Help on the planet:
  - ▶ Planetary rovers
  - ▶ Humanoids
- ▶ Help on space:
  - ▶ Robotic arms
  - ▶ Spheres
  - ▶ Assistants



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## TEST MUST REQUIRE (AT LEAST)

- ▶ Vision related tasks
- ▶ Dexterous tasks
- ▶ Mobility
- ▶ Navigation tasks
- ▶ Complex reasoning

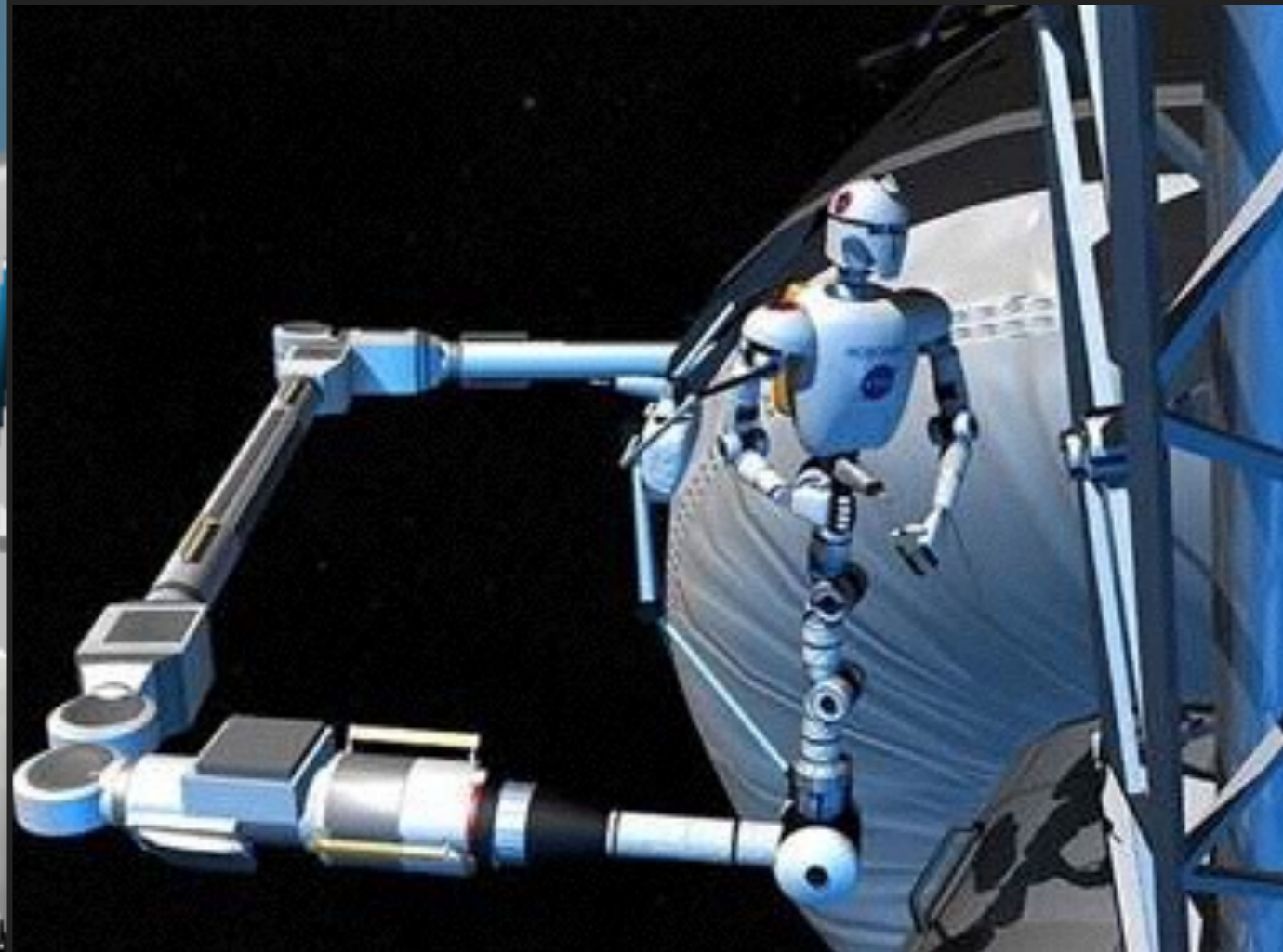
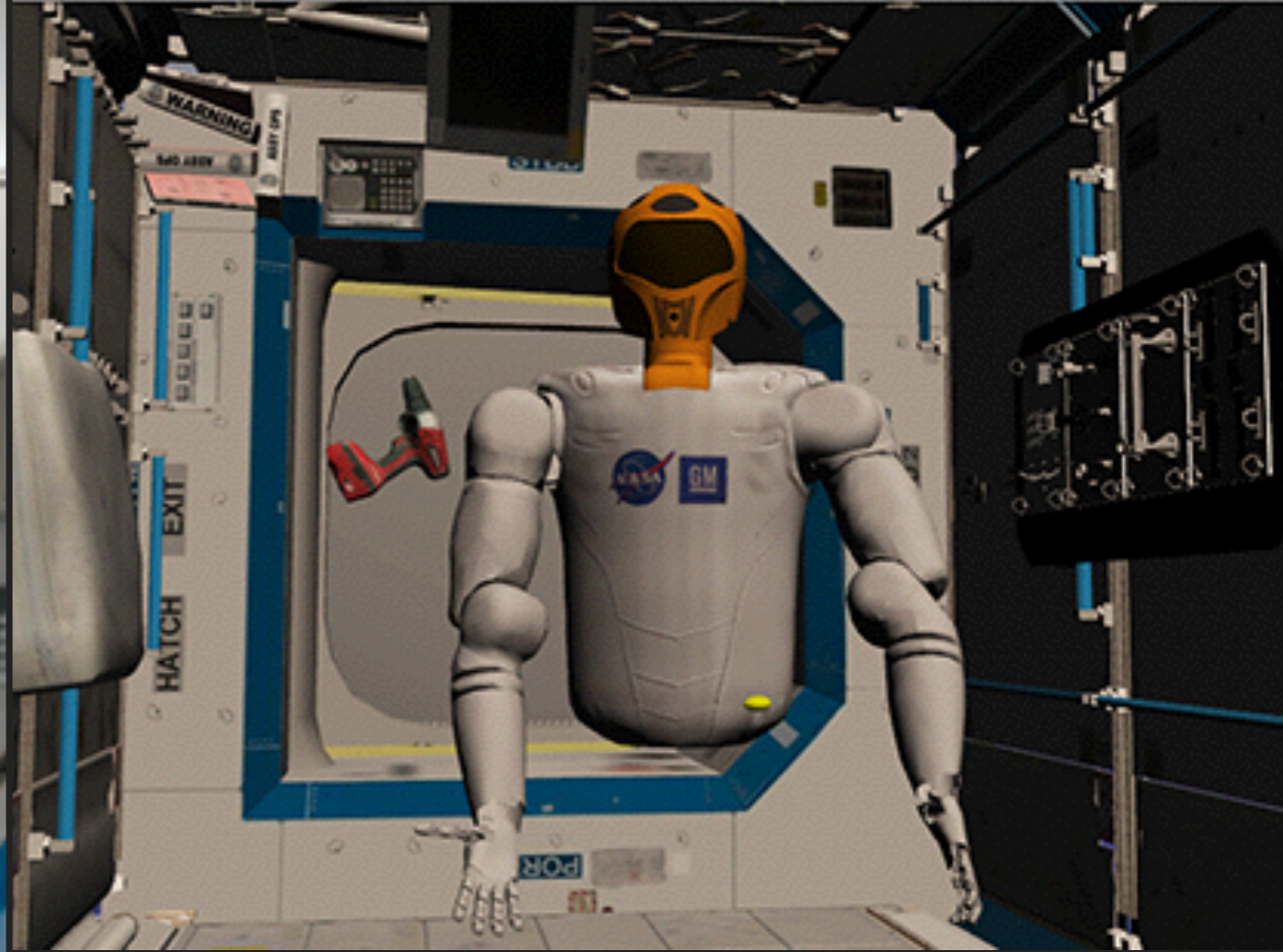
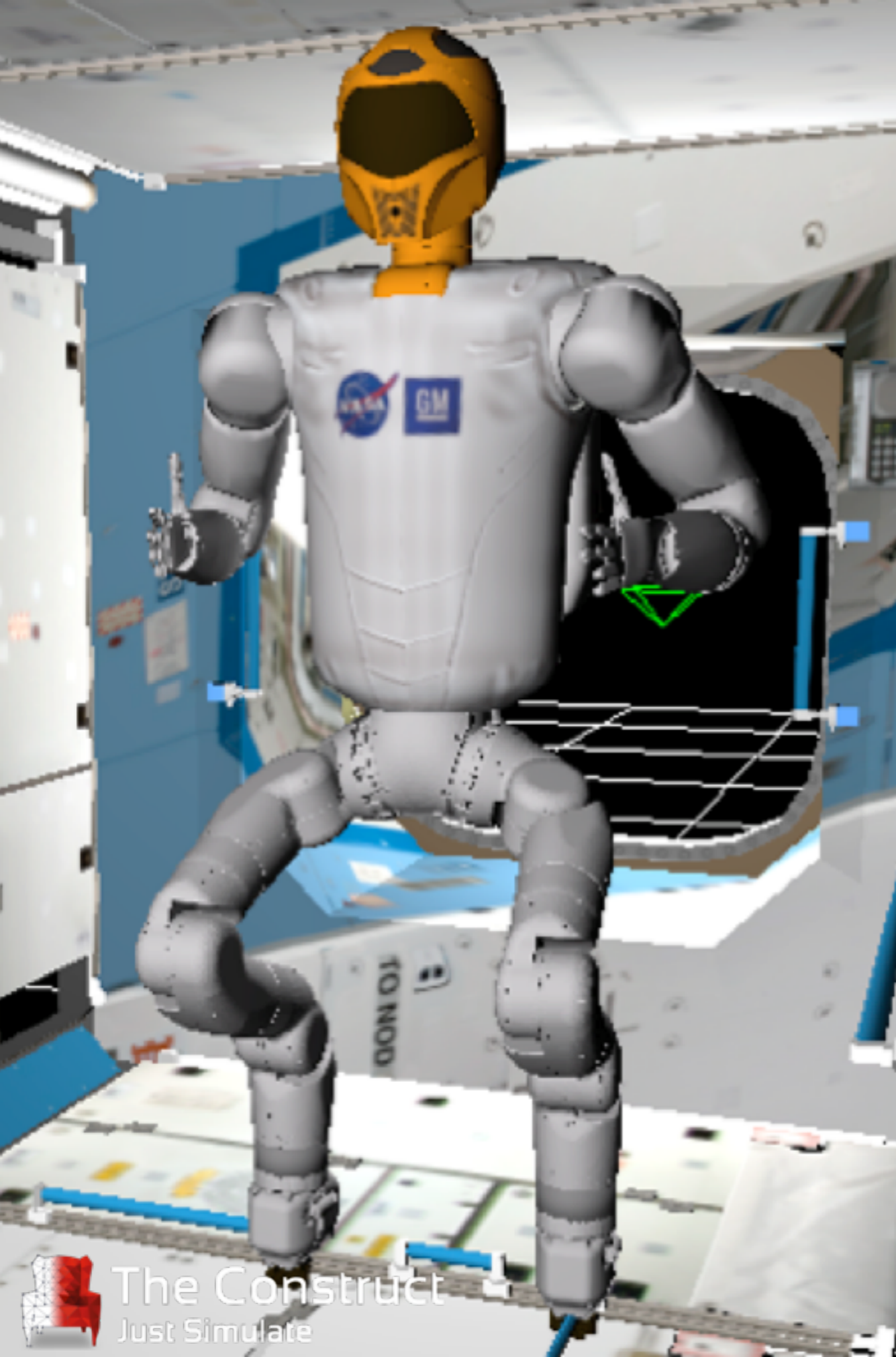




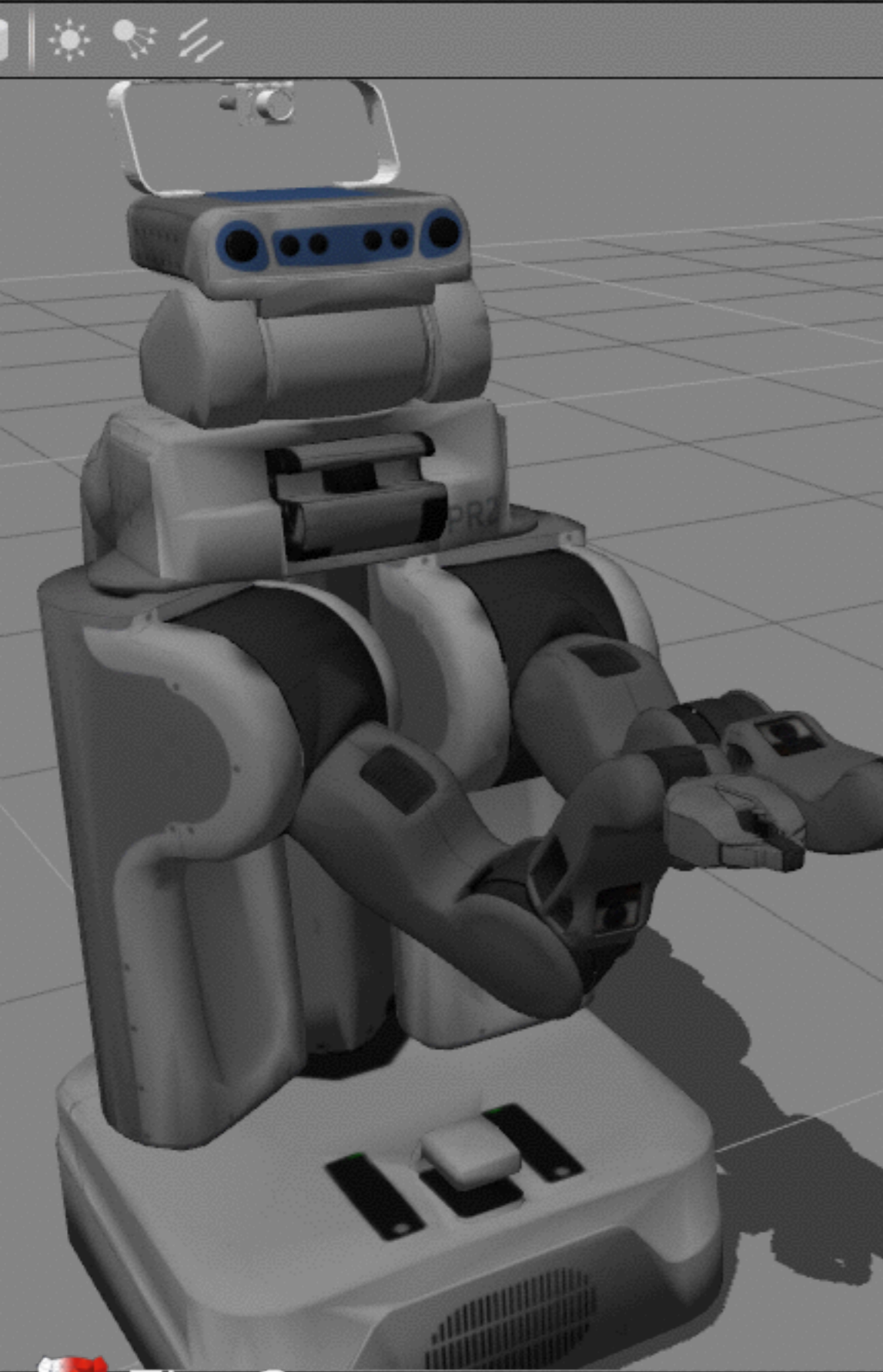












MUST USE A  
SIMULATOR

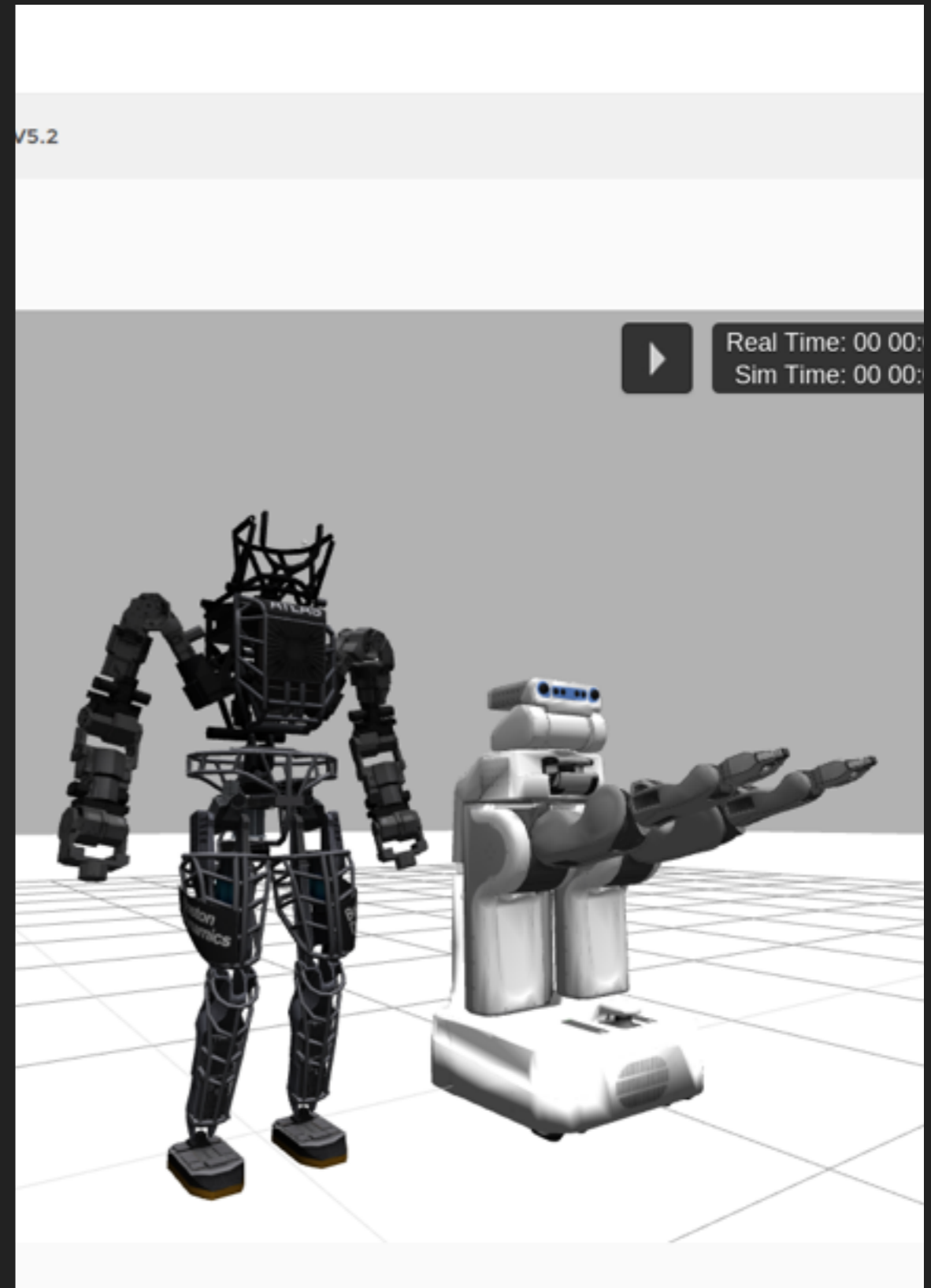
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**GAZEBO 7.0**



# HOW WILL IT WORK

- ▶ Competition simulated environment and robot with basic controllers provided by The Construct
- ▶ Training phase: use the environment to create your programs (online or on desktop)
- ▶ Contest phase: automatically handled (submit your controller up to 1 hour before the contest)



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# EASY TO EXECUTE

- ▶ Just requires:
  - ▶ A computer
  - ▶ A big screen
  - ▶ A cable connection to internet



DURING CONTEST

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**BROADCASTED**



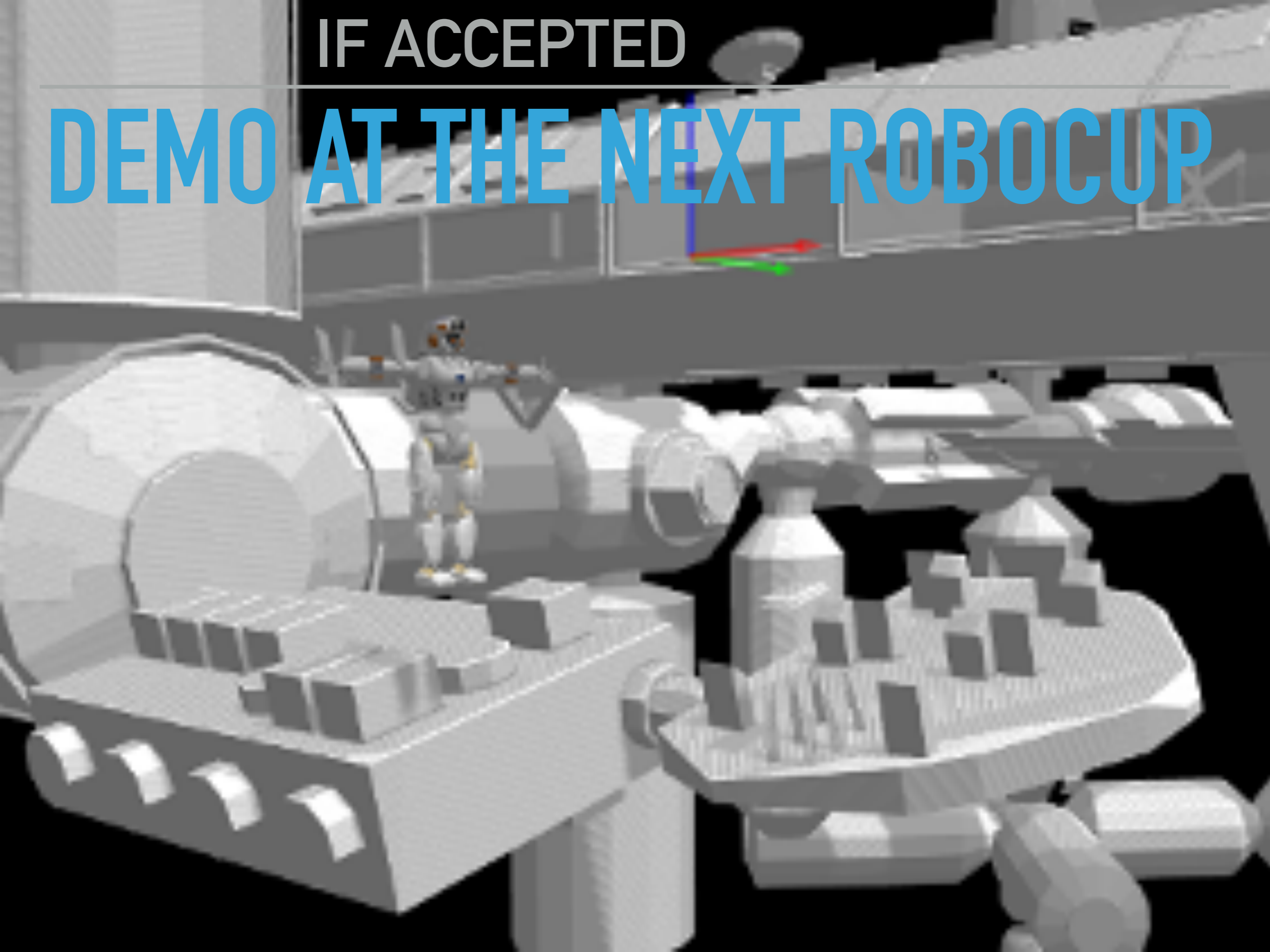
Broadcast Yourself™



The Construct  
Just Simulate

IF ACCEPTED

DEMO AT THE NEXT ROBOCUP





QUESTIONS & COMMENTS & IDEAS

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**WE NEED YOUR FEEDBACK!!!**