

# FINAL06 – HIGH-PRIORITY ORDER (HPO)01

National Institute of Standards and Technology

## Trial Description

- **Task:** Build **2** shipments from 2 orders. The initial order is interrupted at a convenient time by a second order, which is of higher priority (hpo). The robot must complete hpo as fast as possible and then must resume the completion of the initial order.
  - The conveyor belt is not used.
  - There are faulty products in the environment.
- **Orders:** This trial consists of 2 orders (order\_0 and order\_1) with 1 shipment each (order\_0::shipment\_0 and order\_1::shipment\_0).
  - order\_0::shipment\_0 consists of 3 products in total:

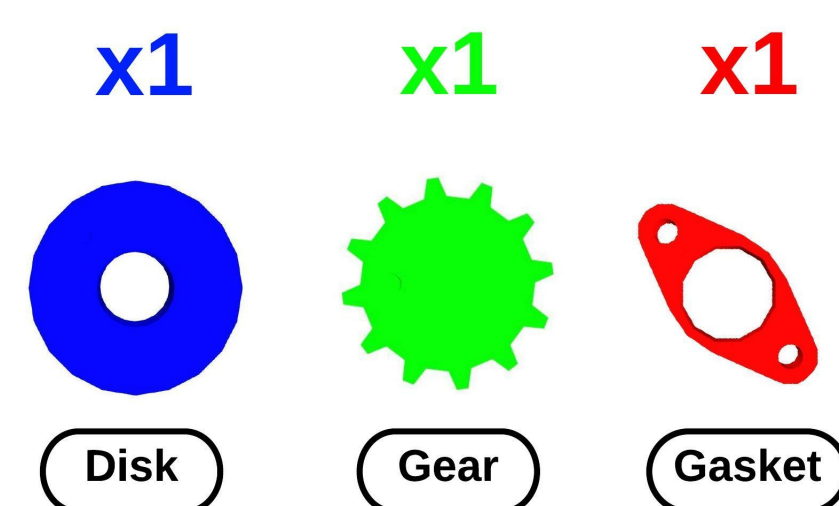


Fig. 1: Products used in order\_0.

- order\_1::shipment\_0 consists of 5 products in total:

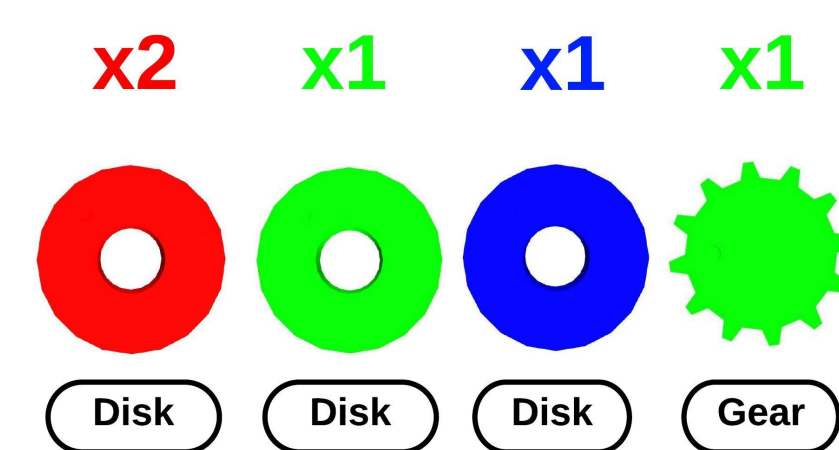


Fig. 2: Products used in order\_1.

- **Maximum completion score:** 32 pts.
- **Agility challenges:**
  - Faulty products.
- **Product vessels:** bin  $\times$  3, shelf  $\times$  2, conveyor belt is not used.
- **Shipment deliveries:**
  - order\_0::shipment\_0: AGV1.
  - order\_1::shipment\_0: AGV2.
- **Time limit:** 500 sim seconds.

## Initial Product Placement

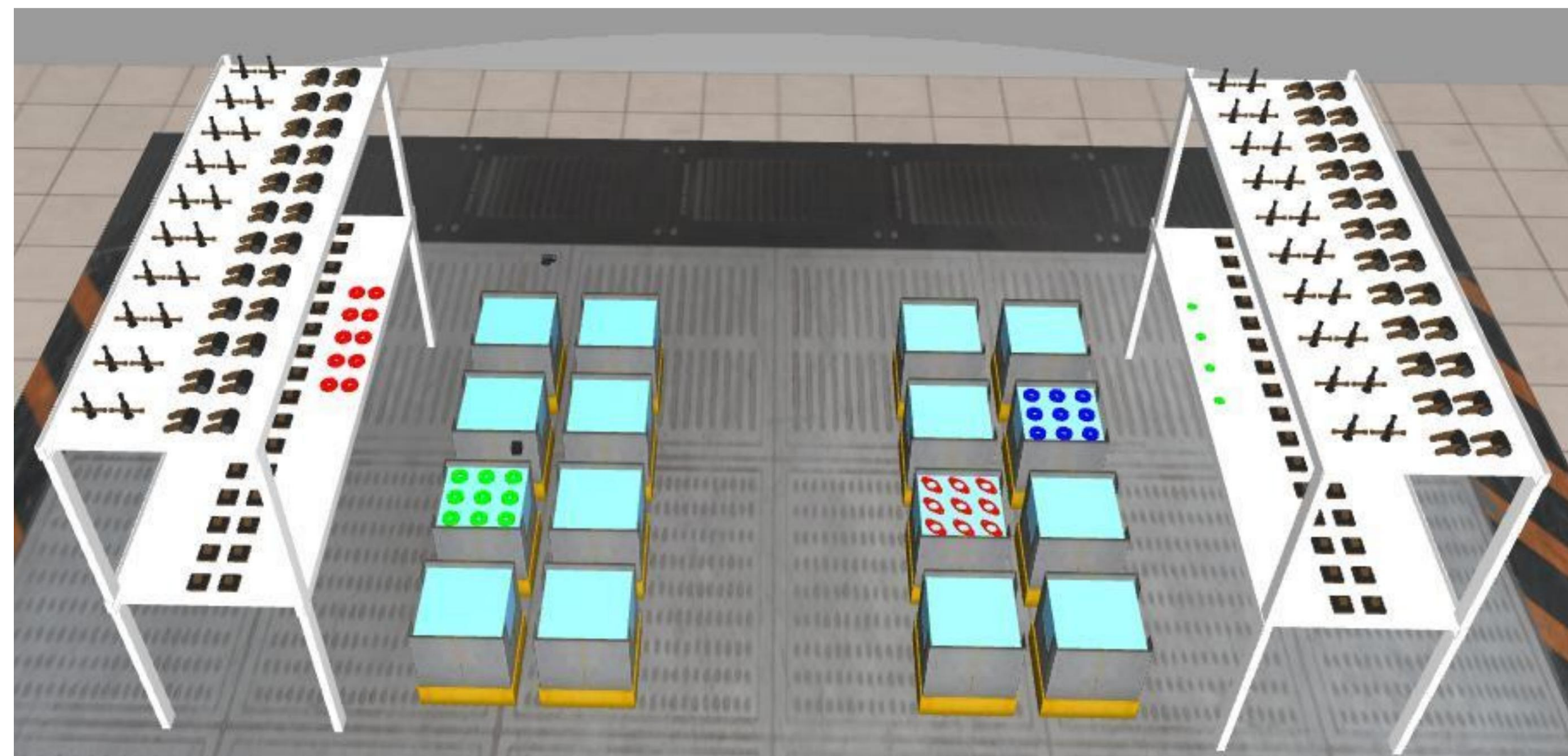


Fig. 3: Initial product placements.

## Agility Challenges

- **Faulty products:** There are 6 faulty products in the environment.

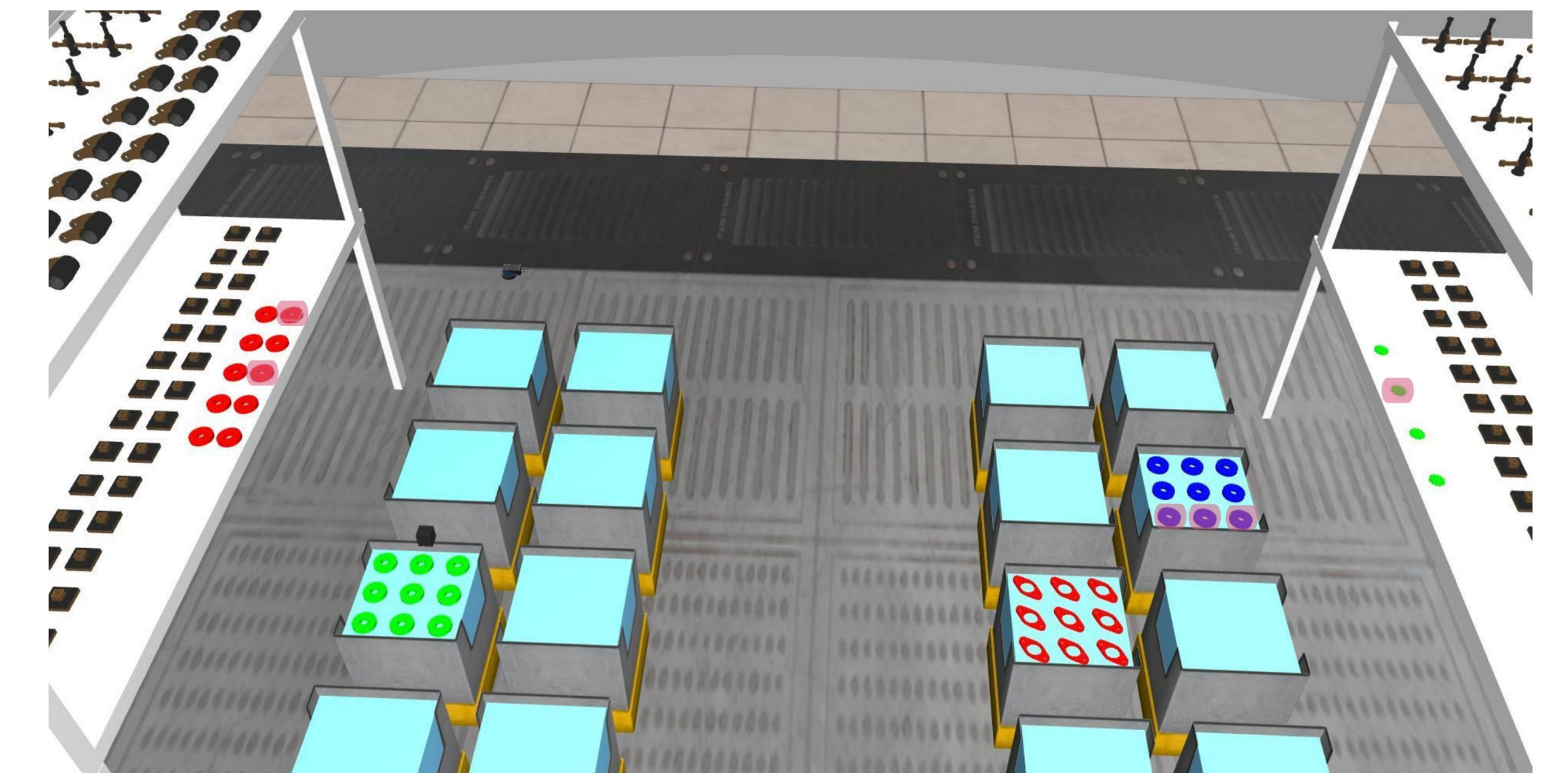


Fig. 4: Faulty products in the environment.

## Orders

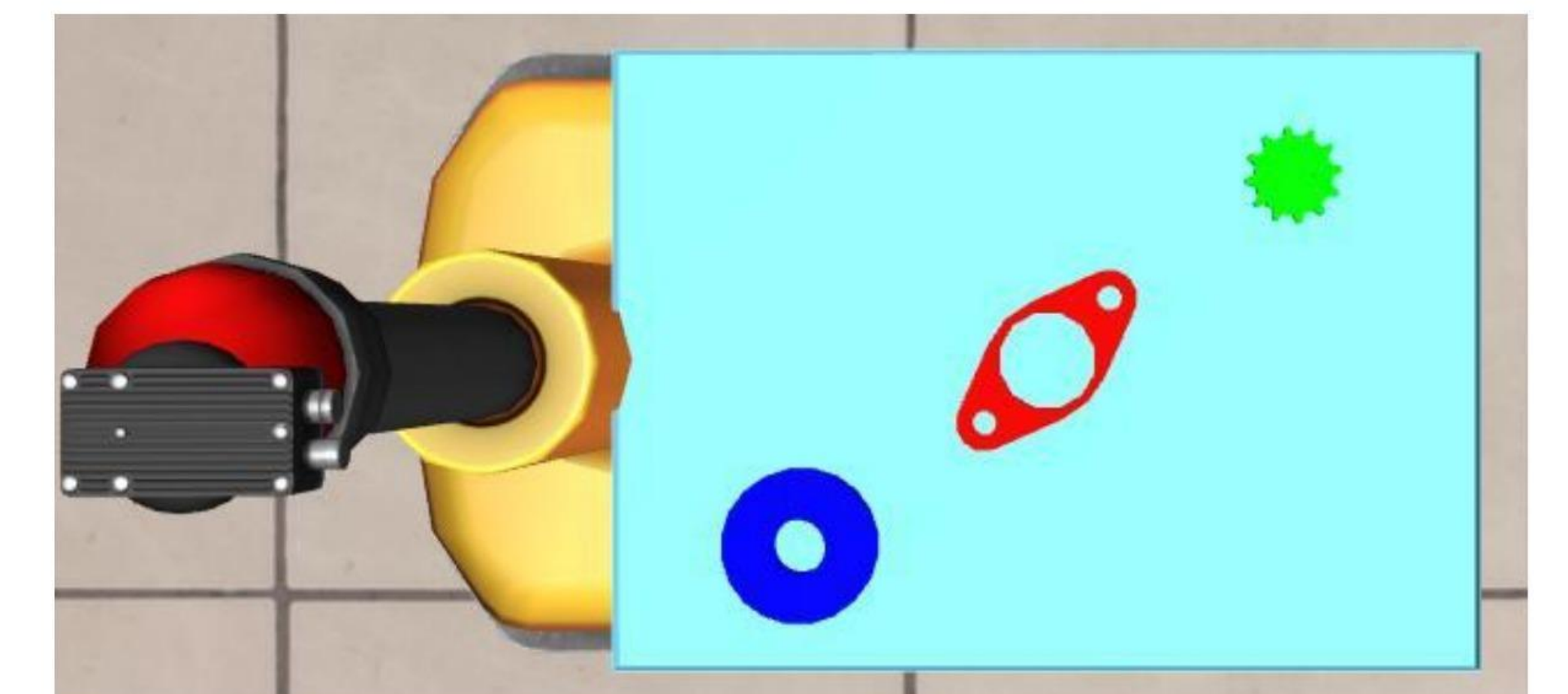


Fig. 5: order\_0::shipment\_0 configuration on AGV1.

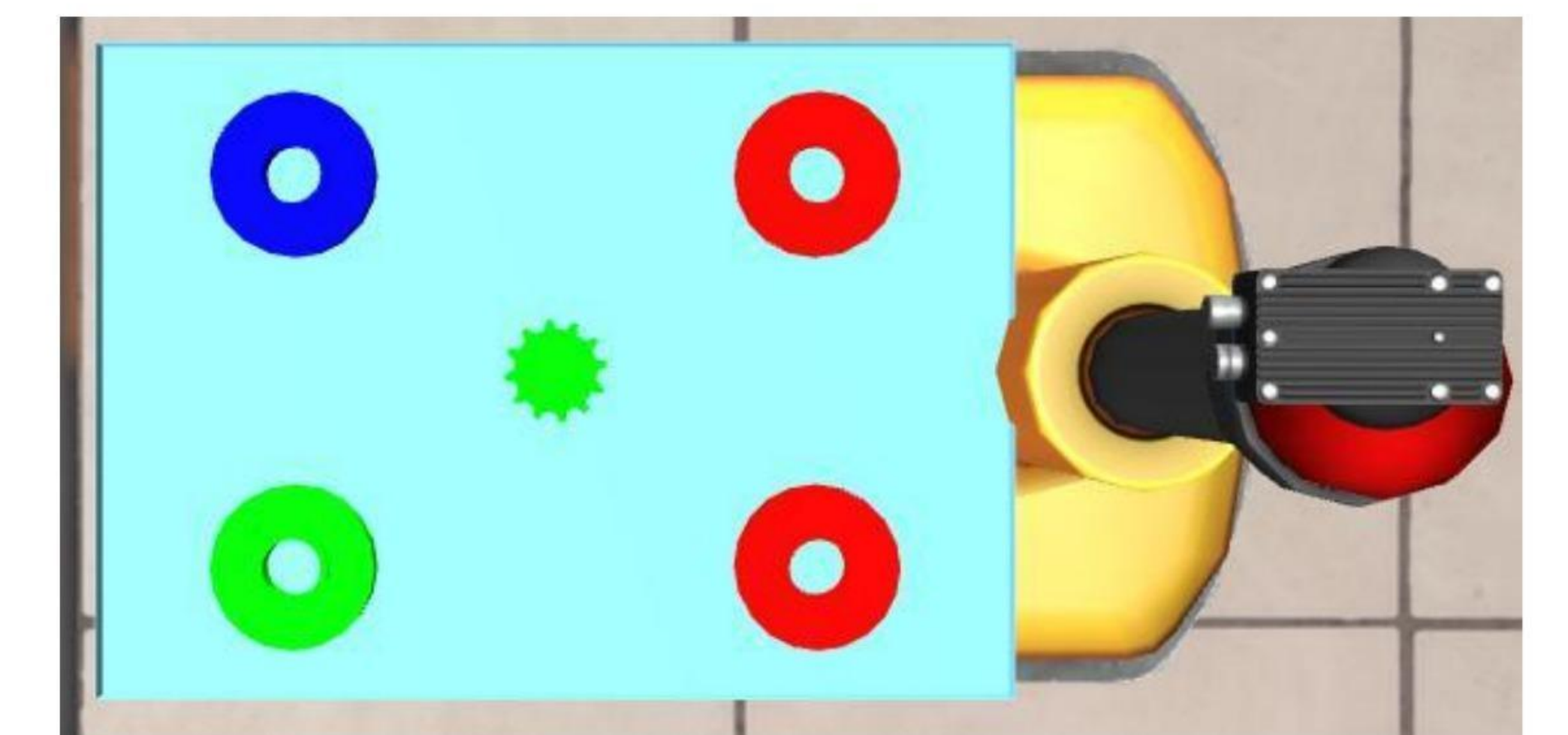


Fig. 6: order\_1::shipment\_0 configuration on AGV2.