

Physical Asset Network (PAN)

Legend

Product

Process

Resource

Input

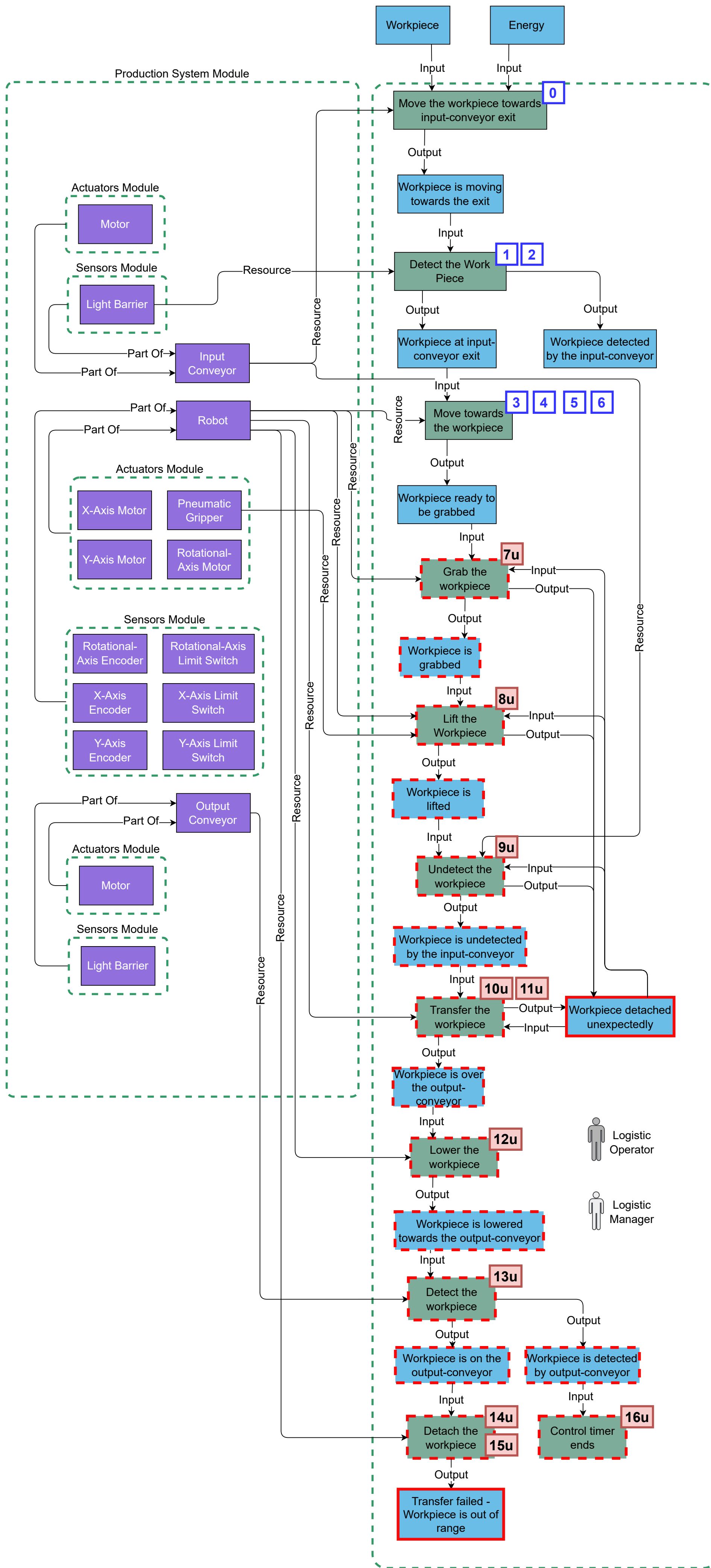
Output

Resource

Module



Actor Stakeholder



Special case: The Robot-Vacuum-Gripper does not grip the workpiece, and the workpiece is lost.
Feature: failed transfer of a workpiece

Special case:
The Robot-Vacuum-Gripper grips, lifts, transfers, and places the workpiece successfully.

Background:
Given an Input-Conveyor equipped with a light-barrier (sensor) and a motor (actuator)
And a Robot-Vacuum-Gripper equipped with a vacuum gripper (sensors) and 3 encoder motors (actuators)
And an Output-Conveyor equipped with a light-barrier (sensor) and a motor (actuator)
And a Work-Piece to transfer from the Input-Conveyor to the Output-Conveyor using the Robot-Vacuum-Gripper

Scenarios:

Placeholder number 0 ... 6
... Same as normal case

Placeholder number 7u
Scenario: Robot-Vacuum-Gripper grabbing the Work-Piece at the input-conveyor exit and failing
Given the Work-Piece
And the Input-Conveyor
And the Work-Piece is at the Input-Conveyor light-barrier
When the Robot-Vacuum-Gripper stops at the target location (both at the x and y dimension)
Then the Robot-Vacuum-Gripper activates the gripper
But the Robot-Vacuum-Gripper gripper loses the Work-Piece

Placeholder number 8u
Scenario: Lifting the Work-Piece in undesired conditions
Given the Work-Piece
And the Input-Conveyor
And the Work-Piece is at the Input-Conveyor light-barrier
And the Robot-Vacuum-Gripper gripper is activated
And the Work-Piece is lost
When 3 seconds has passed after the activation of the gripper
Then the Robot-Vacuum-Gripper lifts

Placeholder number 9u
Scenario: Work-Piece undetected by the input-conveyor in undesired conditions
Given a Work-Piece
And the Robot-Vacuum-Gripper gripper is activated
And the Work-Piece is lost
When the Robot-Vacuum-Gripper is lifting
Then the Work-Piece is still in the range of the the Input-Conveyor light barrier
And the Output-Conveyor light-barrier still detects the Work-Piece

Placeholder number 10u
Scenario: Transferring the Work-Piece
Given the Work-Piece
And the Robot-Vacuum-Gripper
And the Robot-Vacuum-Gripper gripper is activated
When the Robot-Vacuum-Gripper has lifted
Then the Robot-Vacuum-Gripper moves towards the Output-Conveyor at its light-barrier location

Placeholder number 11u
Scenario: Robot-Vacuum-Gripper arriving at the Output-Conveyor entrance with the workpiece in undesired conditions
Given the Work-Piece
And the Work-Piece is lost
And the Robot-Vacuum-Gripper
And the Robot-Vacuum-Gripper gripper is activated
And the Robot-Vacuum-Gripper is moving towards the Output-Conveyor
When the Robot-Vacuum-Gripper reaches the light-barrier location of the Output-Conveyor
Then the Robot-Vacuum-Gripper stops

Scenarios:

Placeholder number 12u
Scenario: Robot-Vacuum-Gripper lowering the Work-Piece in undesired conditions
Given the Work-Piece
And the Work-Piece is lost
And the Robot-Vacuum-Gripper
And the Robot-Vacuum-Gripper gripper is activated
And the Robot-Vacuum-Gripper is at the output-conveyor location
When the Robot-Vacuum-Gripper stops
Then the Robot-Vacuum-Gripper lowers its arm

Placeholder number 13u
Scenario: The Work-Piece is detected by the light-barrier
Given the Work-Piece
And the Work-Piece is lost
And the Robot-Vacuum-Gripper
And the Robot-Vacuum-Gripper gripper is activated
And the Robot-Vacuum-Gripper Vacuum Gripper is at the output-conveyor location
When the Robot-Vacuum-Gripper is lowering its arm
Then the Output-Conveyor light-barrier do not detect the workpiece

Placeholder number 14u
Scenario: The Robot-Vacuum-Gripper Vacuum Gripper Stops at the Output-Conveyor light-barrier location in undesired conditions
Given the Work-Piece
And the Work-Piece is lost
And the Robot-Vacuum-Gripper Vacuum Gripper
And the Robot-Vacuum-Gripper gripper is activated
And the Robot-Vacuum-Gripper Vacuum Gripper is at the output-conveyor location
When the Robot-Vacuum-Gripper Vacuum Gripper is lowering its arm
Then the Robot-Vacuum-Gripper Vacuum Gripper stops lowering its arm

Placeholder number 15u
Scenario: The Robot-Vacuum-Gripper Vacuum Gripper detaches the Work-Piece in undesired conditions
Given the Work-Piece
And the Work-Piece is lost
And the Robot-Vacuum-Gripper Vacuum Gripper
And the Robot-Vacuum-Gripper gripper is activated
And the Robot-Vacuum-Gripper Vacuum Gripper is at the output-conveyor location
When 3 seconds has passed after the Robot-Vacuum-Gripper Vacuum Gripper arm has stopped
Then Robot-Vacuum-Gripper Vacuum Gripper deactivates the gripper, thus releasing the workpiece

Placeholder number 16u
Scenario: The Output-Conveyor reaches the timeout in undesired conditions
Given the Work-Piece
And the Work-Piece is lost
And the Output-Conveyor
When the Output-Conveyor timer overcomes the time out limit
Then the Output-Conveyor raises an alarm