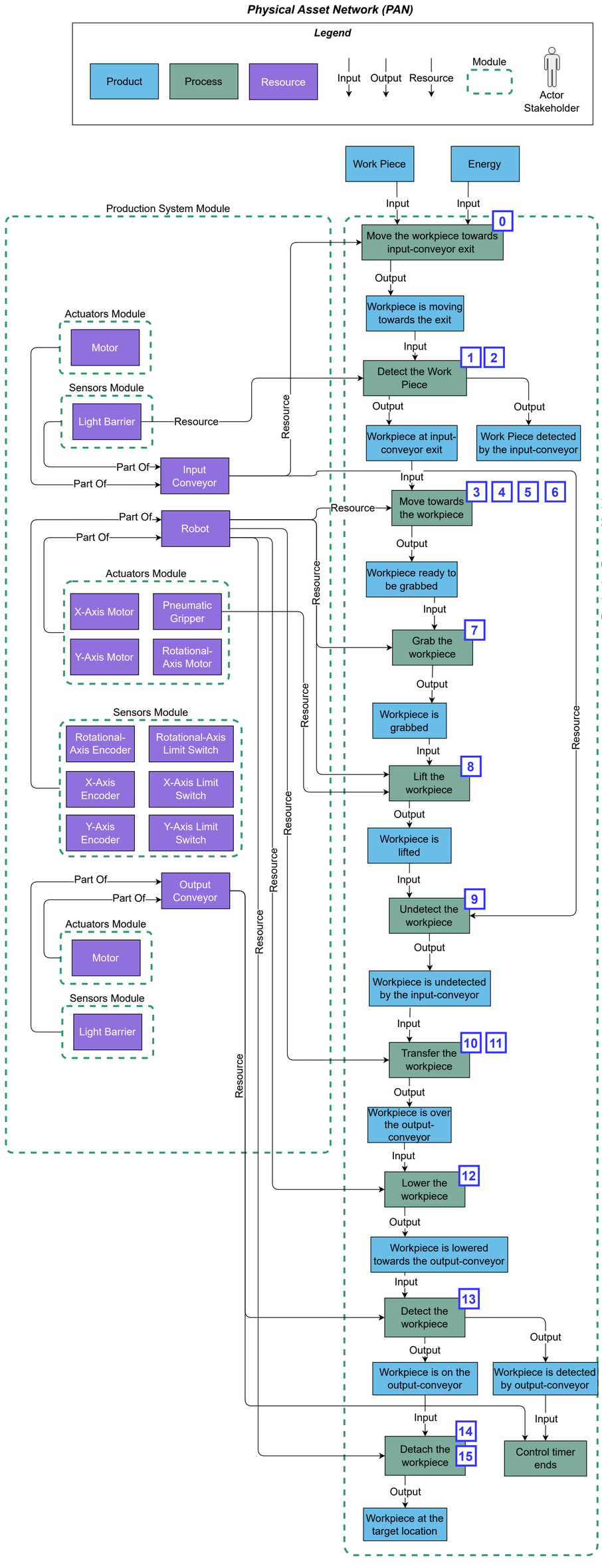


```gherkin
# Normal case: The Robot-Vacuum-Gripper grips, lifts, transfers, and places the Work-Piece successfully.
Feature: successfull transfer of a Work-Piece

    Normal case:
    The Robot-Vacuum-Gripper grips, lifts, transfers, and places the Work-Piece successfully.

    Background:
        Given an Input-Conveyor equipped with a light-barrier (sensor) and a motor (actuator)
        And a Robot-Vaccum-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
```

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    Scenarios:
        # Placehoder number 0
        Scenario: Work-Piece moves on the Input-Conveyor
            Given a Work-Piece
            And the Input-Conveyor
            And the Input-Conveyor is still
            When the Work-Piece reaches the Input-Conveyor
            Then Input-Conveyor starts moving the Work-Piece

        # Placehoder number 1
        Scenario: Work-Piece reaches the conveyor exit
            Given a Work-Piece
            And the Work-Piece is on the Input-Conveyor
            And the Work-Piece is moving on the Input-Conveyor
            When the Work-Piece is in the range of the the Input-Conveyor light barrier
            Then the Output-Conveyor light-barrier detects the Work-Piece

        # Placehoder number 2
        Scenario: Conveyor stops
            Given a Work-Piece
            And the Work-Piece is on the Input-Conveyor
            When the Work-Piece is detected by the Input-Conveyor light barrier
            Then Input-Conveyor stops

        # Placehoder number 3
        Scenario: Robot-Vacuum-Gripper moving towards the Work-Piece at the Input-Conveyor exit
            Given the Work-Piece
            And the Input-Conveyor
            When the Work-Piece is detected by the light-barrier of the Input-Conveyor
            Then the Vacuum Robot-Vacuum-Gripper Gripper activates and moves towards the Work-Piece

    # Placehoder number 4
    Scenario: Robot-Vacuum-Gripper arriving on the Work-Piece at the Input-Conveyor exit
        Given the Work-Piece
        And the Input-Conveyor
        And the Work-Piece is at the Input-Conveyor light-barrier
        And the Robot-Vacuum-Gripper is moving towards the Work-Piece
        When the Robot-Vacuum-Gripper reaches the light-barrier location of the Input-Conveyor
        Then the Robot-Vacuum-Gripper stops

    # Placehoder number 5
    Scenario: Robot-Vacuum-Gripper lowering the arm
        Given the Work-Piece
        And the Input-Conveyor
        And he Work-Piece is at the Input-Conveyor light-barrier
        And the Robot-Vacuum-Gripper  is over the Work-Piece
        When the Robot-Vacuum-Gripper Vacuum stops
        Then the Robot-Vacuum-Gripper lowers its arm

    # Placehoder number 6
    Scenario: Robot-Vacuum-Gripper stopping the arm lowering
        Given the Work-Piece
        And the Input-Conveyor
        And he Work-Piece is at the Input-Conveyor light-barrier
        And the Robot-Vacuum-Gripper  is over the Work-Piece
        Then the Robot-Vacuum-Gripper is lowering its arm
        When the Gripper fo the Robot-Vacuum-Gripper reaches the target Y location (i.e., is at the
        Then the Robot-Vacuum-Gripper stops lowering its arm

    # Placehoder number 7
    Scenario: Robot-Vacuum-Gripper grabbing the Work-Piece at the Input-Conveyor exit
        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 dimenensior
        Then the Robot-Vacuum-Gripper activates the gripper

    # Placehoder number 8
    Scenario: Lifting the Work-Piece
        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
        When 3 seconds has passed after the activation of the gripper
        Then the Robot-Vacuum-Gripper lifts
```

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    Scenarios:
        # Placehoder number 9
        Scenario: Work-Piece undetected by the Input-Conveyor
            Given a Work-Piece
            And the Robot-Vacuum-Gripper gripper is activated
            When the Robot-Vacuum-Gripper is lifting
            Then the Work-Piece is out of the range of the the Input-Conveyor light barrier
            And the Output-Conveyor light-barrier undetects the Work-Piece


        # Placehoder number 10
        Scenario: Transfering 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

        # Placehoder number 11
        Scenario: Robot-Vacuum-Gripper arriving at the Output-Conveyor entrance with the Work-Piece
            Given the Work-Piece
            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

        # Placehoder number 12
        Scenario: Robot-Vacuum-Gripper lowering the Work-Piece
            Given the Work-Piece
            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

        # Placehoder number 13
        Scenario: The Work-Piece is detected by the light-barrier
            Given the Work-Piece
            And the Robot-Vacuum-Gripper
            And the Robot-Vacuum-Gripper gripper is activated
            And the Robot-Vacuum-Gripper is at the Output-Conveyor location
            And the Robot-Vacuum-Gripper is lowering the Work-Piece
            When the Work-Piece is in the range of the Output-Conveyor-light barrier
            Then the Output-Conveyor light-barrier detects the Work-Piece

        # Placehoder number 14
        Scenario: The Robot-Vacuum-Gripper  Stops at the Output-Conveyor light-barrier location
            Given the Work-Piece
            And the Robot-Vacuum-Gripper
            And the Robot-Vacuum-Gripper gripper is activated
            And the Robot-Vacuum-Gripper is at the Output-Conveyor location
            And the Robot-Vacuum-Gripper is lowering the Work-Piece
            When the Robot-Vacuum-Gripper reaches the designated height
            Then the Robot-Vacuum-Gripper stops lowering its arm

        # Placehoder number 15
        Scenario: The Robot-Vacuum-Gripper  detaches the Work-Piece
            Given the Work-Piece
            And the Robot-Vacuum-Gripper
            And the Robot-Vacuum-Gripper gripper is activated
            And the Robot-Vacuum-Gripper is at the Output-Conveyor location
            And the Robot-Vacuum-Gripper is lowered
            And the Output-Conveyor light-barrier is detecting the Work-Piece
            When 3 seconds has passed after the Robot-Vacuum-Gripper arm has stopped
            Then Robot-Vacuum-Gripper deactivates the gripper, thus releasing the Work-Piece
```