

# Calibration of the Agile Production Simulation

Welcome to this guide to calibrating product modules. Calibration is a process in which certain settings of your product are adjusted so that it functions optimally. You can think of it like tuning a musical instrument.

## Why is calibration necessary?

Before we dive into the instructions, it is important to understand why calibration is sometimes necessary. Every APS is fully assembled, tested and calibrated during production and before shipping. However, it may still be necessary to calibrate the APS at a later date. The two most common reasons for this are

### 1. displacement of physical components during transportation:

Even though our products are carefully packaged and shipped, slight displacement of components may occur during transportation. These shifts, even if minimal, can affect the performance and accuracy of the product. Calibration ensures that everything is back in perfect alignment.

### 2. replacement of components:

Over time or due to specific requirements, it may become necessary to replace certain components of the product. If this is the case, the new components often need to be calibrated to ensure that they work optimally with the existing components.

## When do I need to calibrate?

**Workpiece transfer between module and AGV:** If it is determined that a workpiece is not being transferred reliably between a module and the AGV (automated guided vehicle system), the module in question must be calibrated.

**Workpiece transfer within a module:** If the internal transfer of workpieces within a module is unreliable, this module should be calibrated.

**Inaccuracies in workpiece processing:** If a module moves to inaccurate positions when processing a workpiece, this indicates a deviation from the desired calibration values. In such a case, recalibration should be carried out to restore the precision of the module.

## Which modules can be calibrated?

The complex modules in the structure of the APS in particular require calibration. Calibration is available for the following modules:

- Incoming / outgoing goods
- High-bay warehouse
- AI quality assurance

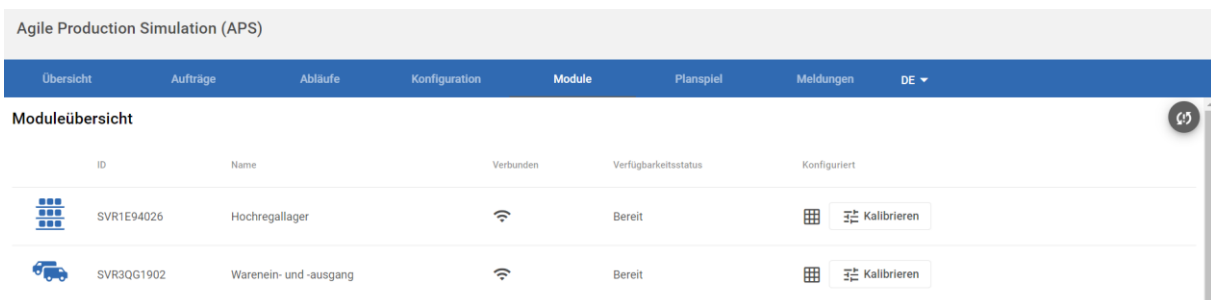
How can I calibrate?









**Access to the calibration interface:**

Open the user interface you are familiar with and navigate to the "Modules" menu item.

**Selection of the module to be calibrated:**

Within the "Modules" interface, all modules that have a calibration option are displayed with a corresponding calibration button. This button allows direct access to the calibration function of the respective module.



Agile Production Simulation (APS)							
Übersicht	Aufträge	Abläufe	Konfiguration	Module	Planspiel	Meldungen	DE ▾
Moduleübersicht							
ID	Name	Verbunden	Verfügbarkeitsstatus	Konfiguriert			
 SVR1E94026	Hochregallager		Bereit			Kalibrieren	
 SVR3QG1902	Warenein- und -ausgang		Bereit			Kalibrieren	

**Visual support:**

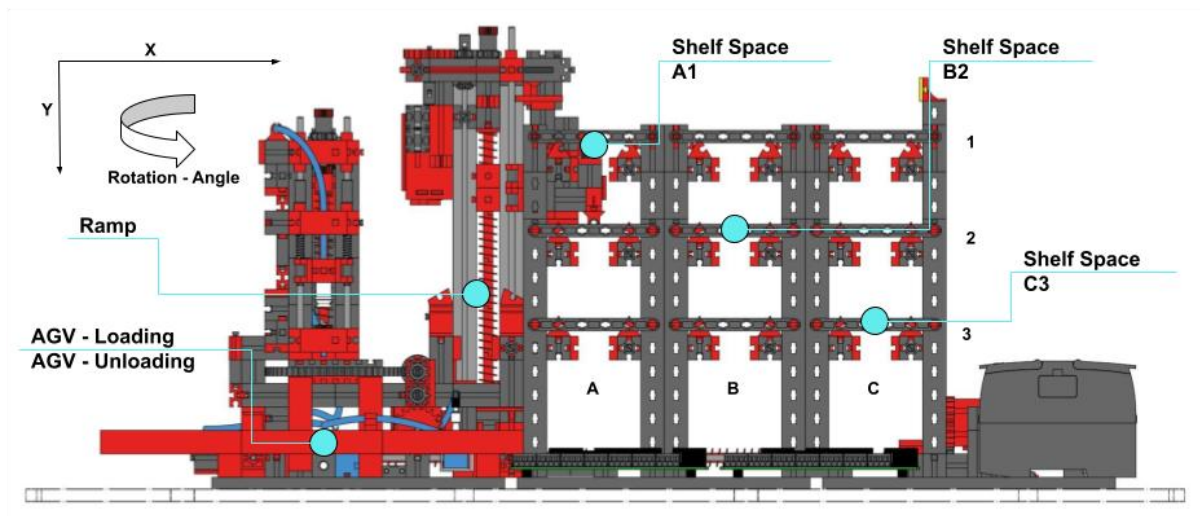
For a detailed visual guide to performing the calibration, see the attached illustration. This illustrates the procedure and the options to be activated for a clear and error-free calibration process.

The following three modules are to be calibrated:

**AI quality assurance**

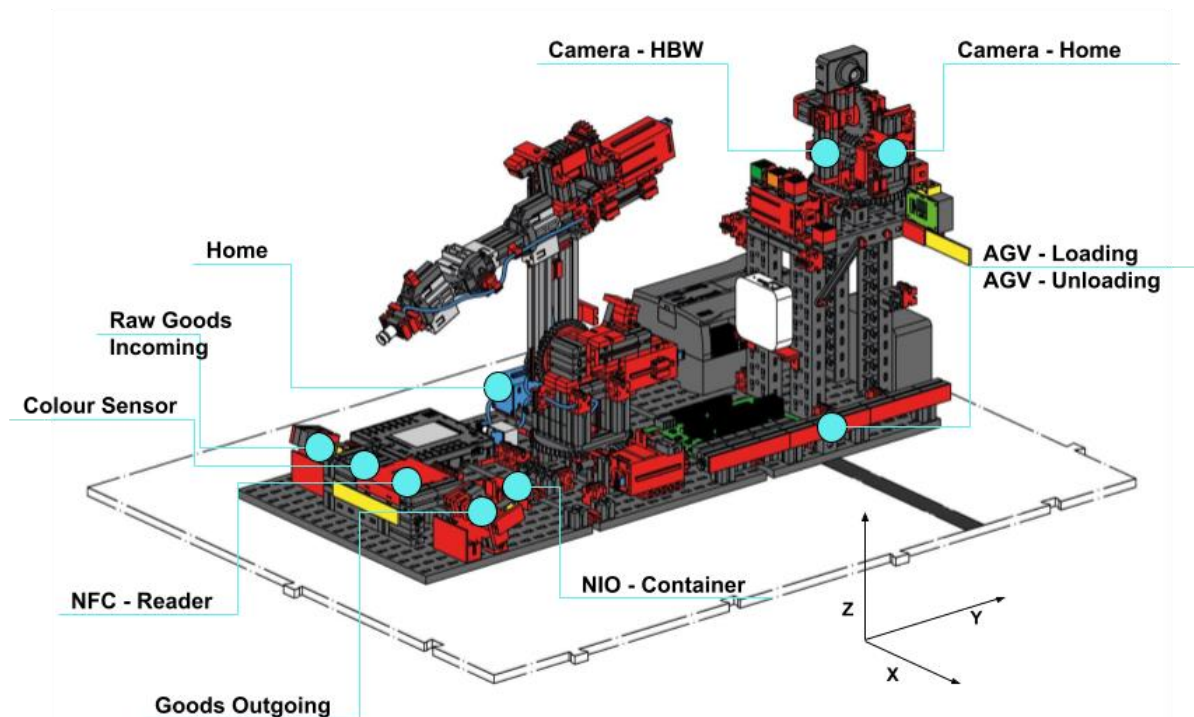
- Position the workpiece under the camera so that the image can be captured correctly

## High-bay warehouse



- Picking up the workpiece from the AGV for storage - "AGV - Loading", "AGV - Unloading"
- Transfer of the workpiece between the gripper and the robot - "Ramp"
- Position of the workpiece carriers in the high-bay warehouse - "shelf space"

## Incoming / outgoing goods



- Process items at goods receipt:
  - Incoming goods by inserting a new workpiece - "Raw Goods Incoming"
  - Color sensor for determining the color of the workpiece - "Color Sensor"
  - NFC reader for checking the NFC tag in the workpiece - "NFC reader"
  - Outgoing goods from which the workpiece can be removed - "Goods Outgoing"
  - NIO container for sorting out workpieces that cannot be processed further - "NIO container"
  - AGV transfer point for loading and unloading the AGV - "AGV loading", "AGV unloading"
- Aligning the camera for positions
  - Home
  - HBW