

# CKD

Image Processing AI Tool

# Facilea AI

AI Tool for Image Processing

AI x Image Processing  
Learns independently and evolves



Facilea AI

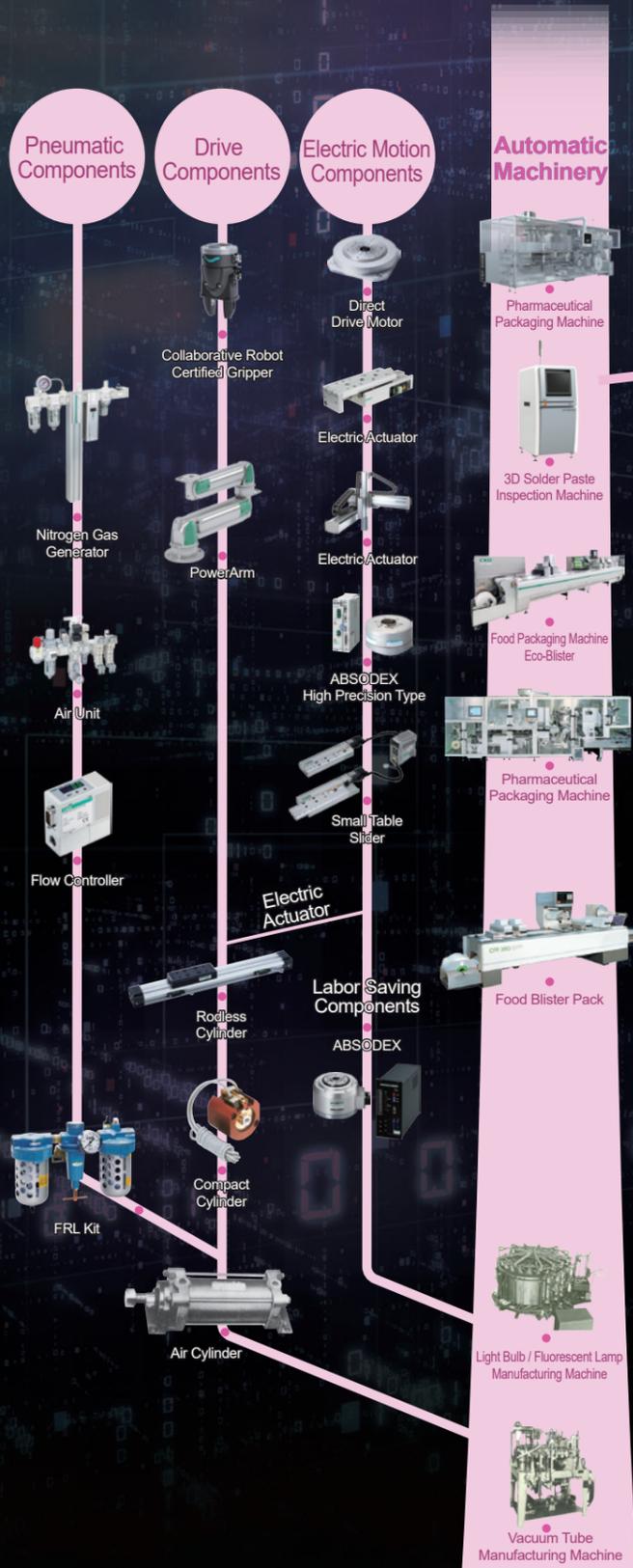
CKD Corporation

CC-1623AA1

# Software solutions that only a manufacturer

# with deep on-site expertise can provide.

CKD Softwares developed from the user's perspective, utilizing know-how cultivated over many years as a component and equipment manufacturer. We propose optimal solutions for image processing, device control, and data collection closely aligned with the site.



## Image Processing Visual Programming Tool

### Facilea

Image processing software that allows programming with intuitive operation



## Image Processing AI Tool

### Facilea AI

Software that learns and evaluates images and can output model files that can be used in Facilea



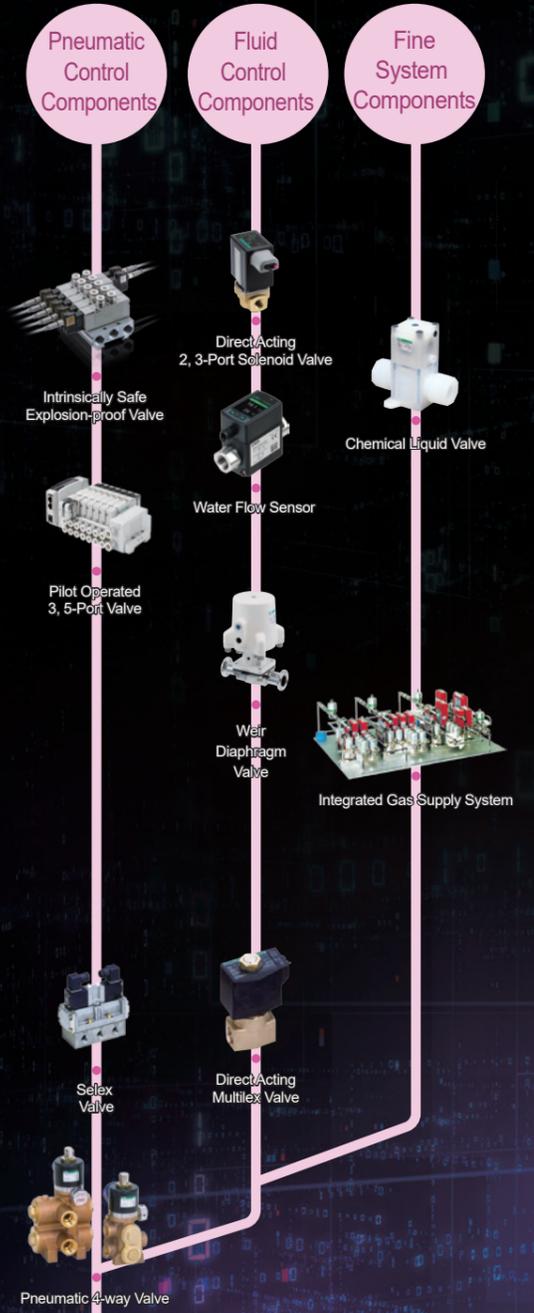
Soft-ware

## Device Visual Programming Tool

### ExiaStudio

### ExiaStudio Pro

Software that is easy for programming beginners to handle and realizes information collection and device control program construction using just a PC



# Facilea AI

## Equipped with AI function

### AI x Visual Programming

Image learning can be performed with no coding. Facilea (rule-based) can handle inspections that are too difficult to judge.



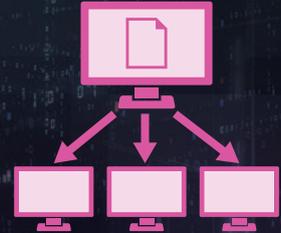
Anyone,  
immediately



With Facilea (rule-based)  
Easy linkage



Simple functions  
(Coloring, Augmentation)



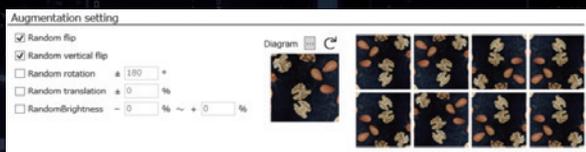
With multiple units  
Model utilization

## Easy operation from learning to introduction of the inspection line!

Once the learning is complete, a learning model file is output and can be easily linked to the Facilea (rule-based) using the Facilea AI block.

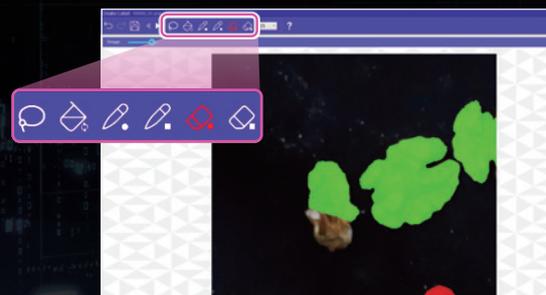
### Intuitive interface

#### Before learning



- **Data Augmentation Settings**

This feature allows you to randomly change the image and artificially increase the learning pattern to increase the generalization performance.



- **Coloring**

Colored images can be easily created with the coloring tool.

#### After learning



- **Learning assessment**

Learning results are displayed in a list and can be confirmed at a glance.

# Facilea AI Procedure Flow

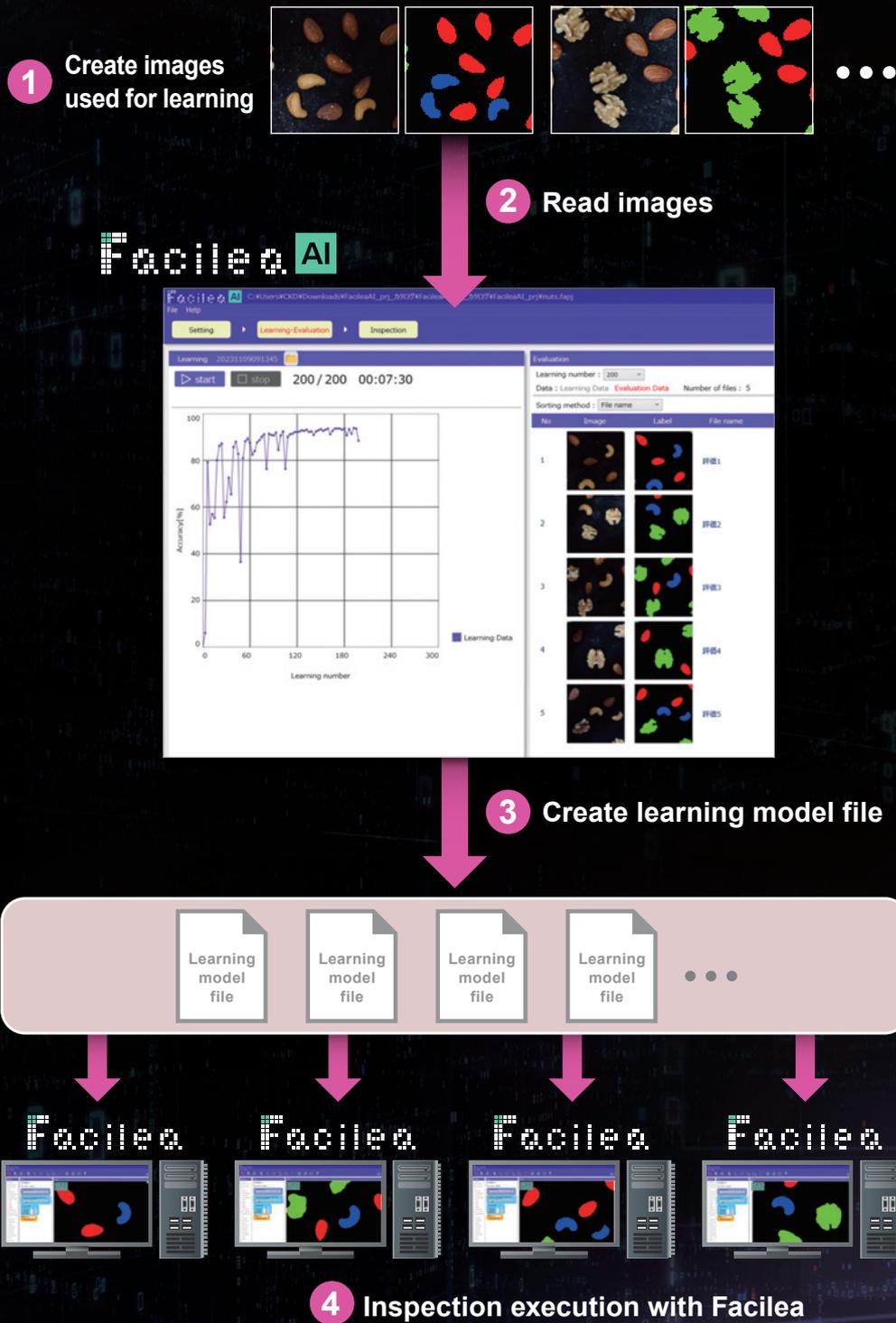


Image processing visual programming tool

## Facilea

By connecting various prepared blocks with drag & drop, anyone can easily build an image inspection system. Equipped with various functions such as count measurement, area measurement, object measurement, character recognition, etc.

Catalog No. CC-1548AA

**STEP 1**

Drag & Drop program blocks

**STEP 2**

Enter simple parameter settings

**STEP 3**

Image processing start!!

# Function



## Classification

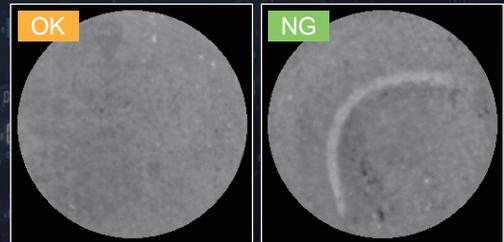
Label division is performed for each image

### Label classification of parts



Learns images of multiple products and classifies which product an image is. Since it only requires learning images, adding product varieties is easy.

### Appearance classification of scratches



Classifies by learning OK images and NG images of the part surface.

## Usage example

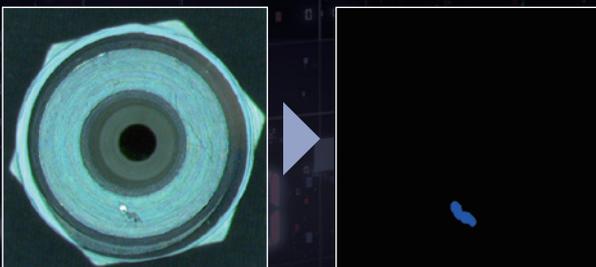
- Detecting abnormal images
- Classifying image labels



## Segmentation

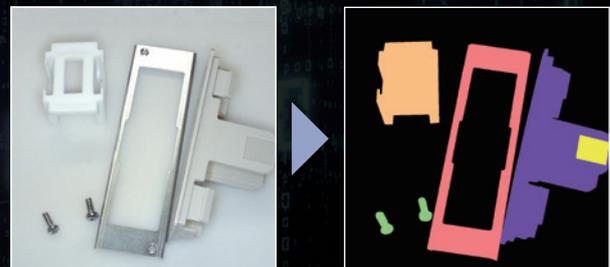
Label division is performed for each area

### Detect defects



Learn by coloring foreign matter, scratches, and dents. Detects abnormalities by type.

### Part type discrimination



Learns by separating colors for each part and determines the type.

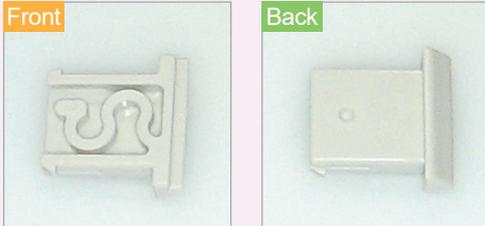
## Usage example

- Detection of abnormalities
- Workpiece coordinates/size

# Use Case

## Classification function

### Classification of front and back of parts



The front and back of parts coming out of the parts feeder are classified and sent to the post-processing.

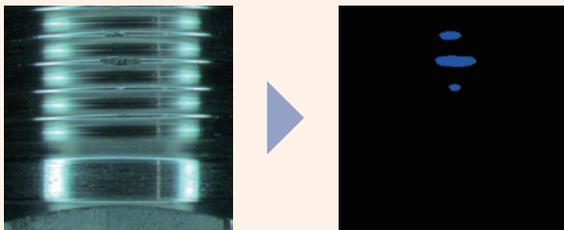
### Appearance inspection of food



Learns OK images and NG images to inspect NG images.

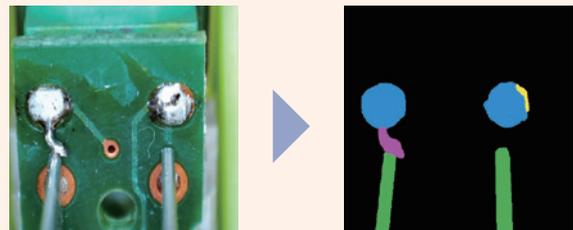
## Segmentation function

### Inspection of screw threads



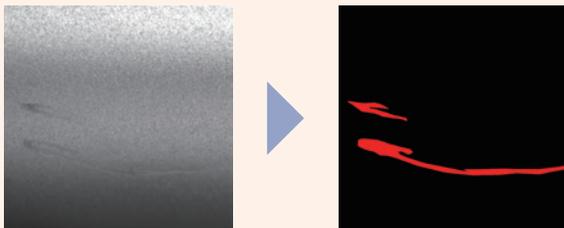
Learn by coloring scratches, foreign matter, and cavities on screw threads. Threads can be inspected for abnormalities.

### Inspection of manual soldering



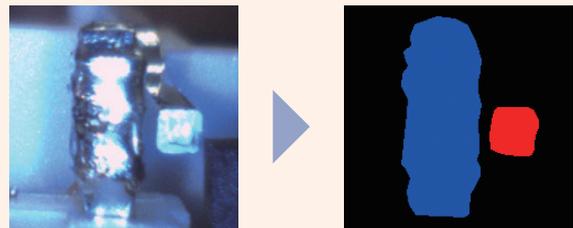
Learn by color-coding solder, land, and terminal. Can inspect whether it is bridged or if solder is applied correctly.

### Appearance inspection of metal surface



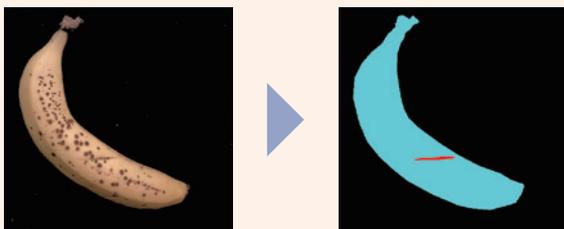
Learn by coloring scratches, dents, etc. on the cylindrical metal surface. Appearance inspection of parts is possible.

### Inspection of terminals



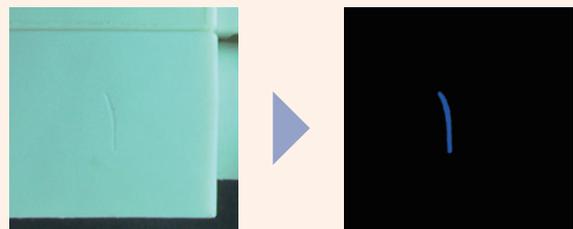
Learn by coloring terminals and solder. Inspects whether the terminal and solder are connected and if the appropriate amount of solder is applied.

### Appearance inspection of food



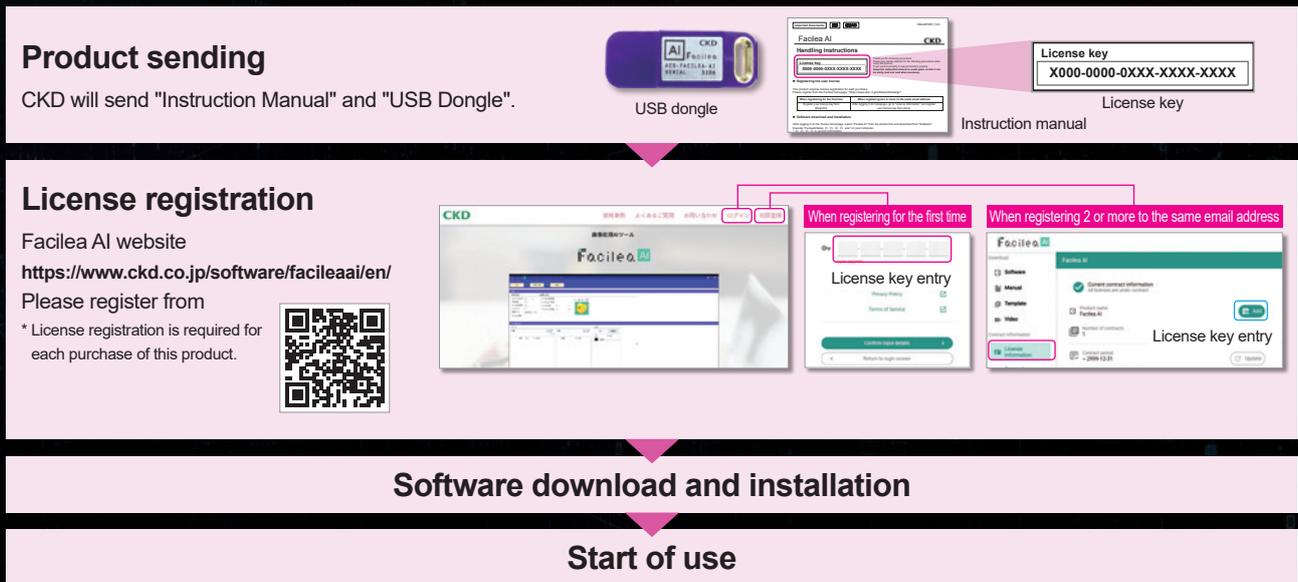
Learn by coloring the banana body and scratches. Can inspect the size of the banana and the presence or absence of scratches.

### Appearance inspection of resin parts



Learn by coloring scratches and molding defects on the resin surface. Appearance inspection of resin parts is possible.

# Flow after purchase



## Recommended specifications

Item		Facilea AI
Model No.		AES-FACILEA-AI
Operating environment	OS	Windows10, 11 64bit
	CPU	Intel Core i5 or higher
	Memory	16GB or more
	GPU	NVIDIA GeForce RTX40 Series or less

## Precautions

- With theFacilea AI (AES-FACILEA-AI), the program operates only when a USB dongle is plugged in.
- When using an AI block withFacilea (AES-FACILEA-1), only a Facilea USB dongle is required.
- When using AI block with Facilea (AES-FACILEA-1), Facilea AI (AES-FACILEA-AI) must also be installed on the PC on which Facilea is installed.
- The warranty period for this product is one (1) year from the initial delivery to the customer's designated site. For details of compensation, refer to the CKD website (<https://www.ckd.co.jp/kiki/jp/>).
- AES-FACILEA-AI is subject to the U.S. Export Regulations Administration Regulations (EAR99).

The goods and/or their replicas, the technology and/or software found in this catalog are subject to complementary export regulations by Foreign Exchange and Foreign Trade Law of Japan. The law requires a license from Ministry of Economy, Trade and Industry to export them.

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