

Single piece of software providing extensive image processing and simple robot control.

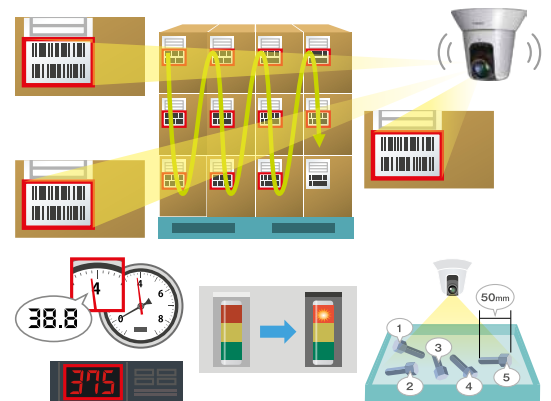
VISION EDITION

Image processing & robot control software



Image processing application

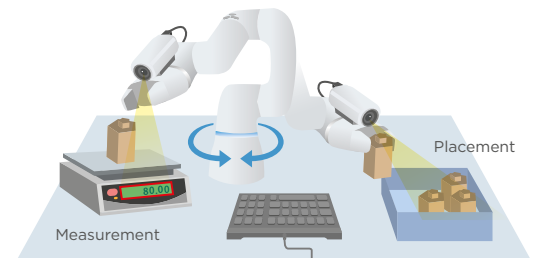
- Automatically capture various codes and values in production or logistics environments using PTZ network cameras.
 - 1D and 2D barcodes
 - Analogue and digital meters
 - Signal tower warning lights
 - Detect multiple barcodes from a stack of boxes and zoom to scan individual codes
- QA inspection e.g. missing screws, parts measurement



Pick and place solution

(controlling collaborative robot COBOTTA*)

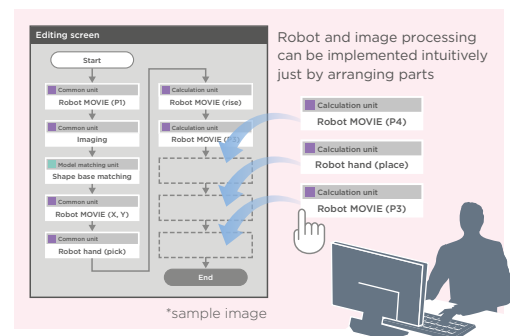
- Automate simple repetitive tasks and reduce human error
- An extensive image processing function can be used to sort parts by weight, label, shape or colour
- Complete routine tasks in factory, retail, pharmaceutical, office or other environments
- Operate as a stand alone solution or as part of a factory field network
- Captured images can be kept as log files for auditing purposes



*COBOTTA is a product of Denso

Intuitive set up and programming

- Drag and drop image processing or robot control operation units onto the flowchart to build a program
- Various simulation modes
- No prior image processing or robot programming knowledge required



SOFTWARE FUNCTIONS

CAMERA OPERATION FUNCTIONS	Imaging, network camera position, network camera movement correction, grid PTZ
BRANCH PROCESSING FUNCTIONS	Branch processing, multiple branching conditions
IMAGE PROCESSING FUNCTIONS	Density inspection, area, edge position, edge width, arc edge, approximate straight line edge, angle detection, circle detection, ellipse detection, blob detection, 1D code reader, 2D code reader, number recognition, character recognition, analogue meter reading, colour detection
MODEL MATCHING FUNCTIONS	NCC matching, Shape matching
ROBOT CONTROL FUNCTIONS	Robot movement, robot movement correction, robot palletizing, robot hand, robot I/O
CALCULATION FUNCTIONS	Four basic calculations, angle calculations, multiple branching conditions calculation, maximum value/minimum value, numerical formula calculations, output value statistical, two straight line intersection, two point calculation
IMAGE ENHANCEMENT FILTERS	Grayscale binarization, contract -> expand, expand -> contract, Sobel filter, image subtraction

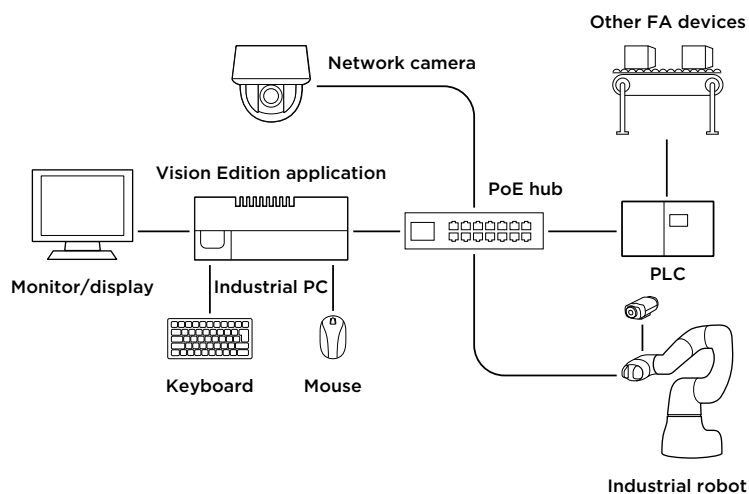
SYSTEM OPERATION

SIMULTANEOUS CAMERA CONNECTIONS	Maximum 4 cameras per program including COBOTTA robot on-hand camera
NUMBER OF ROBOT CONNECTION	1 robot (DENSO COBOTTA)
JOB TRIGGER INPUT	Robot, PLC, internal timer trigger (trigger count & trigger interval)
DATA OUTPUT TO PLC	Detected value (coordinate, edge position etc), number/analog meter/code detection RGB value. 1D & 2D code output as dictionary ID number
DATA OUTPUT (AS CSV LOG DATA FILE) TO FTP SERVER	Detected value (coordinate, edge position etc), 1D code/2D code/number/character/analogue meter/colour detection RGB value
FTP TRANSFER	Log images, log data, screenshots
SIMULATION MODE DATA	Log images, log data or from external USB memory device
LOG RECORDS	Log images, log data, archive images, screenshots

SUPPORTED DEVICES

CANON NETWORK CAMERA	VB-H45, VB-S30D Mk II, VB-S30VE, VB-S910F
AXIS NETWORK CAMERA	P1214, P1224-E, M1065-LW, M5065, V5915, P3905-R Mk II, P3915-R Mk II
ROBOT ON-HAND CAMERA	Canon industrial camera N10-W02 (DENSO COBOTTA on-hand camera)
ROBOT	DENSO COBOTTA (compliant with b-CAP communication over Ethernet)
PLC	PLC that supports SLMP transmissions (QnA compatible, 3E frame)(Mitsubishi Electric, etc.) PLC that supports Open User Communication transmissions (Siemens)
PC	Siemens Simatic IPC427E, HPE Edgeline GL20, EL300, EL1000, Matrox 4Sight EV6, Mitsubishi Electric MELPIC MI2000

Vision Edition system diagram



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English Edition
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