

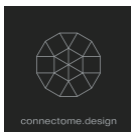
Solution Exhibition

Partner Companies Exhibition

Image Processing Seminar

## Visual Inspection Solutions of CCS's Partner Companies

**OKI**



**JE International corporation**

**computar**

**TPC**  
MACHINE VISION LENS

**Next Technology**

**BASLER**

**FANATIC**

**Hutzper**

**MITSU**  
ミツテック株式会社

**MICRO-TECHNICA**

**icore**  
innovation to the Core

**VICO** imaging.com

**VOMMA**

**WHEC**

Solution Exhibition

Partner Companies Exhibition

Image Processing Seminar

### Image Processing Seminars

to solve your problems in image processing inspections

**12/4 (Wed) 10:30 – 11:30** Introduction of the latest technology of lighting management and new controller OPPX  
**13:30 – 15:00** The role of lighting in image processing inspection (Basic level)

**12/5 (Thu) 10:30 – 11:30** For those who would like to implement AI in image inspection: Introduction of Solution AI  
**13:30 – 14:30** Solving problems with lighting + ai Introduction of solution case studies

**12/6 (Fri) 10:30 – 11:30** SWIR and deep UV seminar (tentative)  
**13:30 – 15:00** The role of lighting in image processing inspection (Basic level)

**Note:**

- All seminars will be conducted in Japanese.
- Pre-registration is required to attend the seminars.
- If you would like to attend, please contact our sales representative or marcom@ccs-inc.co.jp.
- For details, please contact our sales representative.

**CCS**  
CREATING CUSTOMER SATISFACTION

# Machine Vision Solution

# EXPO<sup>®</sup> 2024 in 横浜

## Special 3 days for your vision solutions

# 2024 December 4 - 6

(Wed) (Fri)

## 10:00 am - 5:00 pm

\*Last entry: 4:00 pm

### Shintoshi Hall

Yokohama Shintoshi Building (Sogo Yokohama) 9<sup>th</sup> floor  
2-18-1, Takashima, Nishi-ku, Yokohama, Kanagawa, 220-0011, Japan

- 5 minutes walk from Yokohama Station (JR Line, Keikyu Line, Tokyu Toyoko Line, Yokohama Municipal Subway, Minatomirai Line)
- 20 minutes walk from Pacifico Yokohama

Just a short walk from  
Yokohama Station (East Exit)



Solution Exhibition

More than 40 solutions related to inspections and measurements will be showcased!

LIGHTING SOLUTION  
**CCS Inc.**

Partner Companies Exhibition

Our partner companies will exhibit their machine vision solutions.

Image Processing Seminar

We will host seminars on image processing technology.

\* Seminars will be conducted in Japanese.

Please see the inside page for details of the exhibits.



## Pre-registration is required

Registration form: [https://e-ve.event-form.jp/event/87865/expo2024yokohama\\_global](https://e-ve.event-form.jp/event/87865/expo2024yokohama_global)

Please apply as early as possible since the maximum number of registrations is limited.



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**More than 40 exhibits!** Check out the **latest** of CCS!

**New products and solutions** will be on display!

**We offer various solutions to make it visible.**

**3D and Sensing Area**

▶ **3D measurement solution** NEW

Introducing optical cutting method 3D measurement using GigE camera. Optimal 3D data can be obtained by setting optical conditions to match the workpiece.

**Wavelength Solution Area**

▶ **Latest solutions of SWIR \*1 and deep UV** NEW

■ **Ultra-high power infrared light source (1120nm)**

This light source is 100 times brighter \*2 than the conventional HLV-IR120 Series (over 1000nm type), which can be used for applications that were previously difficult to inspect and contribute to faster inspection speed.



■ **Inspection solutions of deep to near UV**

We will demonstrate inspections using deep UV that are difficult in the visible light range such as transparent objects, scratches, stains and unevenness, together with optical systems.

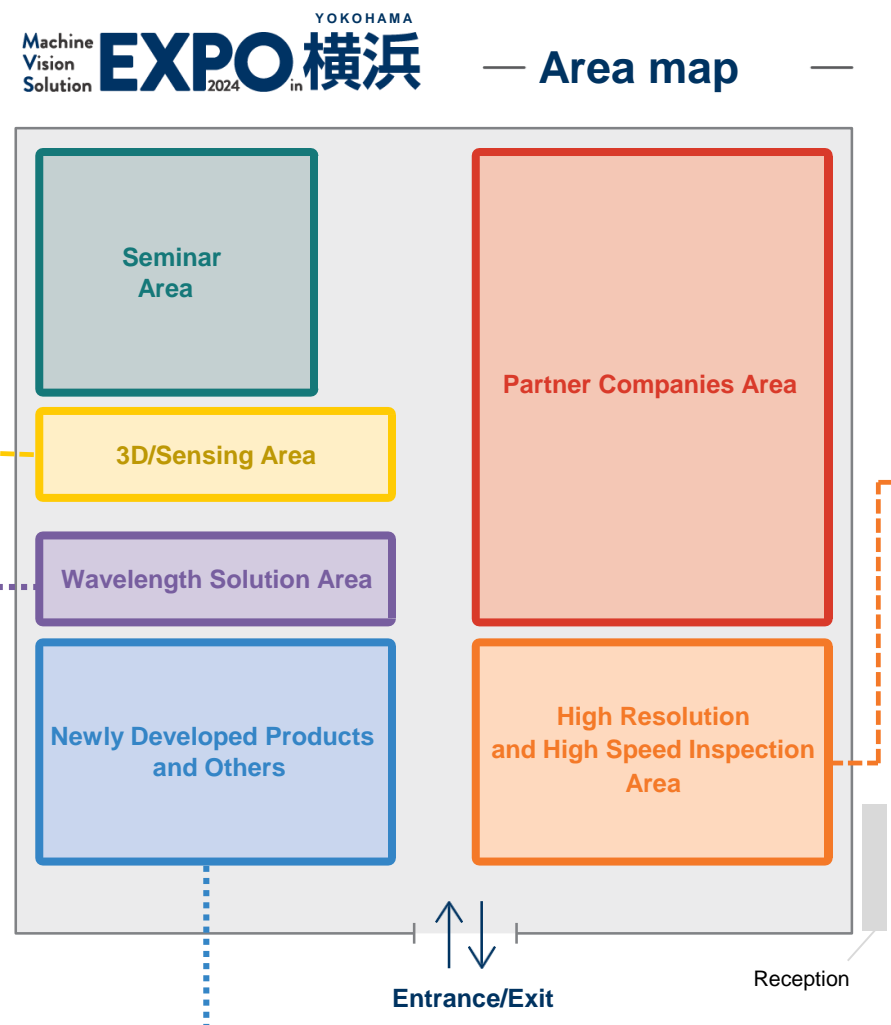
\*1 Short Wavelength Infrared \*2 Radiation intensity ratio measured by CCS

▶ **Hyperspectral imaging inspection**

Workpieces of different materials can be classified and detected by broadband infrared light dedicated to hyperspectral cameras. Compared to halogen light sources, this system can significantly reduce the thermal effect on the workpieces and wavelength change over time, realizing stable inspection environments.

▶ **Image evaluation system with multi-band lights** NEW

This evaluation system can simulate the classifiability of color differences of workpieces based on images captured in multiple wavelengths. The system derives optical settings suitable for color and material recognitions.



**High Resolution and High Speed Inspection Area**

▶ **Line scan camera + photometric stereo High-speed image processing with FPGA** NEW

Combining FPGA processing using Visual Applets has realized faster visual inspection for detecting wrinkles and flaws by removing patterns and halation on the workpiece surface. Image processing is performed in real time with twice the number of pixels and 10 times the scan rate compared to conventional systems.

▶ **Ultra high-speed area camera imaging** NEW

Introduction of a high-speed imaging solution that combines power flash LED and a high frame rate camera. We offer a total inspection environment for high-speed lines that is less susceptible to up-and-down movement and vibration.

▶ **Imaging solutions to capture slight scratches, inclinations, and dents**

■ **Pupil-dividing polarization and birefringence pupil interferometer systems**

Using our unique optical technology suitable for machine vision, we can visualize nano-order scratches and inclinations.



■ **Collimated light lens-integrated parallelism variable coaxial light**

Integration of a telecentric lens with a variable light eliminates the need for optical axis adjustment with the camera and allows adjustment of detection levels for defects of varying degrees.

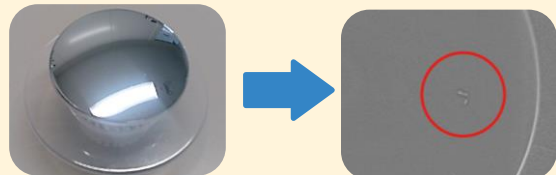
■ **Imaging technology for transparent objects by screen projection**

By combining a high-output LED light source and a low-magnification lens to irradiate light with extremely high directivity, imaging of irregularities and veins on transparent objects that are difficult to visualize can be achieved.

**Newly Developed Products and Others**

▶ **Visual inspection solution for glossy and three-dimensional workpieces** NEW

Imaging example: curved surface plated parts



Highlight uneven areas by reducing reflection

Imaging example: handle part



Capture unevenness on the surface of the complex-shaped workpiece

▶ **Expanded lineup of digital control units PD4 Series** NEW

30W type and 120W 8-channel type will be newly available. By adding new functions of sequence switching by trigger input signals and selecting orders of lighting control settings, PD4 Series has improved its ease of use.

▶ **High-capacity and fast light switching lighting controller CCS-CB-MT Series** NEW

We will showcase a lighting controller with four channels totaling 1200W for controlling multiple high-power line lights and for inspecting with high-speed lighting switching. This controller can be installed in a multi-scan system that can simultaneously acquire images captured with multiple lights.

▶ **Superb bright high output light source PFBR-2400SW Series** NEW

Achieves stable inspection environments with 4 times the output of PFBR-600SW Series and no emission wobble. No lamp replacement is required, significantly reducing maintenance costs.



▶ **Solution cases of custom lights** NEW

From our wide range of custom lighting solutions, we will showcase our unique custom cases such as ring lights for the inner surface inspection of cylindrical workpieces and tunnel dome lights that can optimize the irradiation light according to the workpiece size.

▶ **High illuminance line light** NEW

We will introduce line lights suitable for surface inspection of asperate metals. Our optical technology has realized both high illumination and uniformity at an irradiation distance of 50 to 100 mm.

▶ **Surface-mount LED ring light** NEW

Achieves 2 to 3 times brighter than conventional bullet-type LED ring lights. Exhibits thin ring lights that take advantage of surface-mount LEDs and multi-stage ring lights designed for the inspection field of view of small workpieces.

▶ **High power & flexible light distribution LED light**

EFFI-FLEX2 series allows to set optimum irradiation light for various conditions by changing the lens position and diffusion plate.

The versatile bar type LED lights can be used up to 2,900 mm in length. Visible, ultraviolet, and infrared light are also available. Thanks to the built-in driver, no controller is required, which saves cost and space.

