

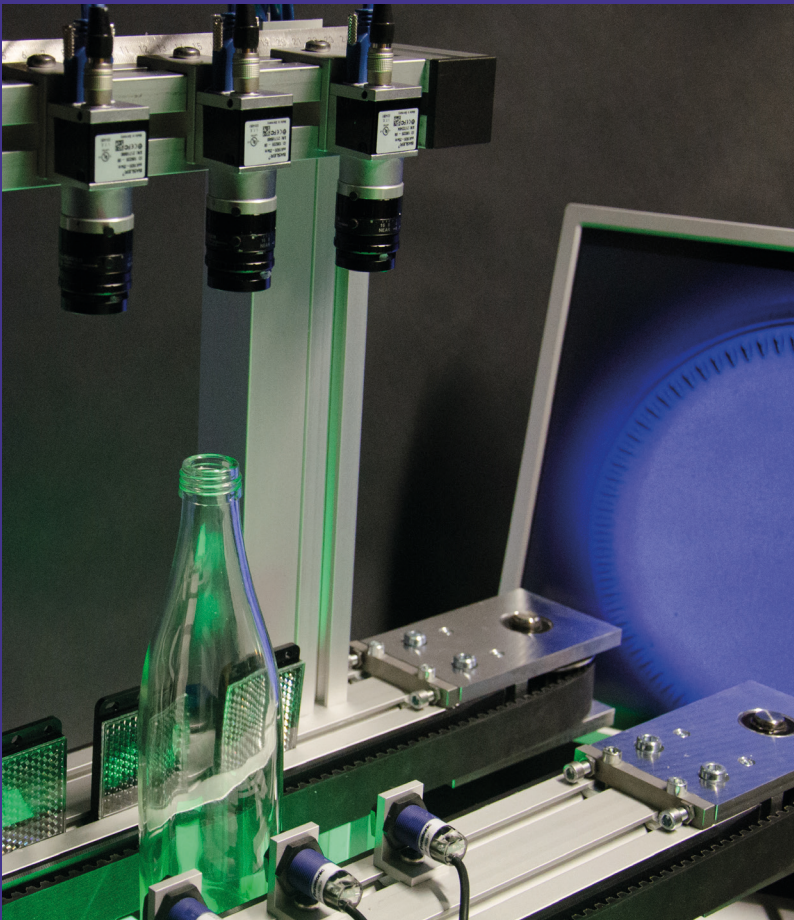


Fraunhofer

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FRAUNHOFER INSTITUTE FOR
INTEGRATED CIRCUITS IIS

MULTI-MODAL IMAGING SYSTEM FOR INDUSTRY 4.0





1

Sequential image recording on the production line

With the multi-camera system by Fraunhofer IIS, you can quickly solve a variety of in-line measuring tasks and even save costs while doing so. Multiple off-the-shelf industrial cameras, each equipped with an optical filter, sequentially record the objects of interest on the production line.

With the help of novel algorithms and a real-time software implementation, we register and merge the individual images into a complete data set.

Due to a robust registration, only rough alignment is necessary, which reduces installation and setup time. The adaptation to novel imaging tasks is carried out by simply swapping the filters.

You make the decision

Through the use of off-the-shelf grayscale camera systems, you select the spatial resolution and frame rate required for your testing task.

The desired image components are selected by attaching a filter to each camera. This way, a quick adaptation to polarization and even multispectral imaging is possible.

Annealed tableware glass, imaged with our setup

(1) without registration and (2) with our registration

The standard system consists of the following components:

- Multiple off-the-shelf cameras
- Each camera is equipped with a lens and filter
(can be individually replaced depending on the application)
- Regular PC for processing
- Fraunhofer IIS software for real-time registration and fusion

Your benefits at a glance

- Novel imaging principle for industrial inspection
- Quick setup and implementation, low effort for adjusting to different measuring tasks
- Inexpensive alternative to specialized camera designs due to off-the-shelf components
- Custom configurations even for single quantity systems
- Software library for merging and registering the individual image channels

The multi-camera system shows current research and has previously been tested in laboratory conditions. We are looking for industry partners for further testing in an industrial environment. Sounds interesting? Get in touch with us to learn more about the multi-modal imaging system!

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