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Optimism Rules over 2023



In the editorial of the last Buyers Guide, I wrote that we still have to overcome Corona at the end of 2021, almost two years after the outbreak. In fact, we are still not completely out of the pandemic. But we are well on our way. One sign of this is that most of the trade shows and events have taken place again – albeit in some cases at unusual dates. But firstly, it is a good sign for the industry when it meets at Vision in Stuttgart (and again a week later in Boston). Secondly, it is essential that the machine vision family can meet face

to face. We humans just need direct interaction with others. Moreover, it is only at trade fairs and similar events that spontaneous conversations occur that foster new ideas, create new relationships, and deepen existing ones.

The fact that the trade shows have taken place, and will take place again in 2023, makes me very positive – despite the still lower exhibitor and visitor numbers – that we will overcome all actual crises. No matter whether it's a chip crisis, energy crisis or political crisis. Because at the end of the day, economics is psychology: if optimism prevails, things can only go well. Of course, not everything will be perfect, but it won't be bad either.



Because at the end of the day, economics is psychology: if optimism prevails, things can only go well.«

Let's look back on the good moments of 2022 with a smile and enter 2023 with optimism. I am quite sure it will be great overall – and we will master the challenges.

Enjoy reading the Buyer's Guide

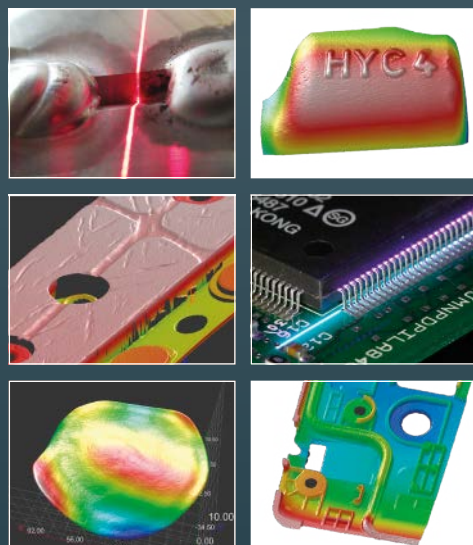
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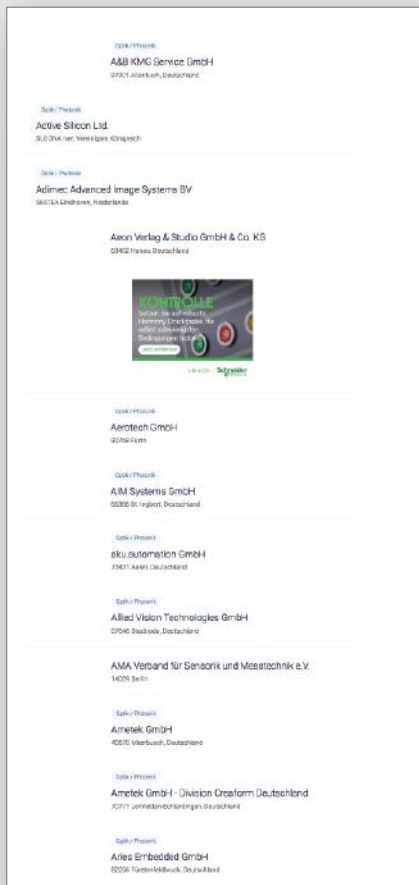
 Automation
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Machine Vision and Optical Metrology in Europe

The inspect Buyer's Guide 2023

Throughout the year, we aim to provide you with information about new developments, technological trends, groundbreaking applications, new products, and leading companies. Throughout the year, we are faced with the recurring challenge: What to select, what to highlight, what to point out. There is never enough room to cover it all. So once a year we seize the opportunity to present to you a comprehensive overview of the machine vision and optical metrology industries.



The Online Buyer's Guide provides all listed companies and much additional information – including contact details, articles and products.



Companies providing a full-fledged company profile will be additionally found in multiple categories with the keyword search.

The inspect Buyer's Guide is published in its 14th year now, for the 15th time it also serves as the official Buyer's Guide of the EMVA, the European Machine Vision Association. The guide contains information about more than 500 companies from over 30 countries. It has a clear focus on companies doing business in Europe or exporting their goods to Europe. Naturally, this comprises companies and organizations from all over the world.

Online ...

The inspect Buyer's Guide is a true cross-media product. On the one hand, it is based on the printed annual publication, on the other hand on our portal www.wileyindustrynews.com/en. Here, under the Buyer's Guide tab, you will find all participating companies, including further information about the company. Wherever you are, you will find what you are looking for in the Buyer's Guide – either in the printed version or on our portal. Additionally, here you will find all the news on machine vision and photonics that move the industry, as well as interesting technology reports and applications.

Companies wanting to provide more information and aiming at even better search results are listed with a company profile, including detailed company data and a listing of products offered, industries served and applications catered to.

The online Buyer's Guide is open for companies within the scope of the inspect all year round. In this way it is always up-to-date.

... and Print

The availability of data online is a clear benefit when presented with clever search functions. However, sometimes you do not want to bother going online, or you don't want to search specifically but rather obtain a quick overview. In these instances a printed version has its unchallenged advantages. Not to mention the ease-of-use when taking notes right next to the provided data. Thus, once a year the printed edition of the inspect Buyer's Guide is provided to you. With this guide we aim to give you a full overview that is still easy to use, a complete set of information that is still not too subdivided into too many categories.

The inspect Buyer's Guide 2023 is divided into three main chapters: Topics, company profiles for the main global regions, and company listings for the main product categories. In an industry as innovative and dynamic as ours it will most likely never be possible to provide an overview that is final and complete, but we do our best to come as close as possible. ■

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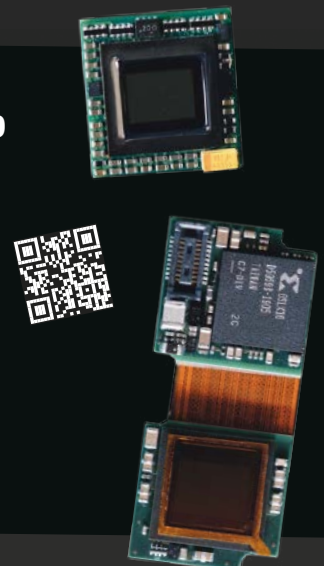
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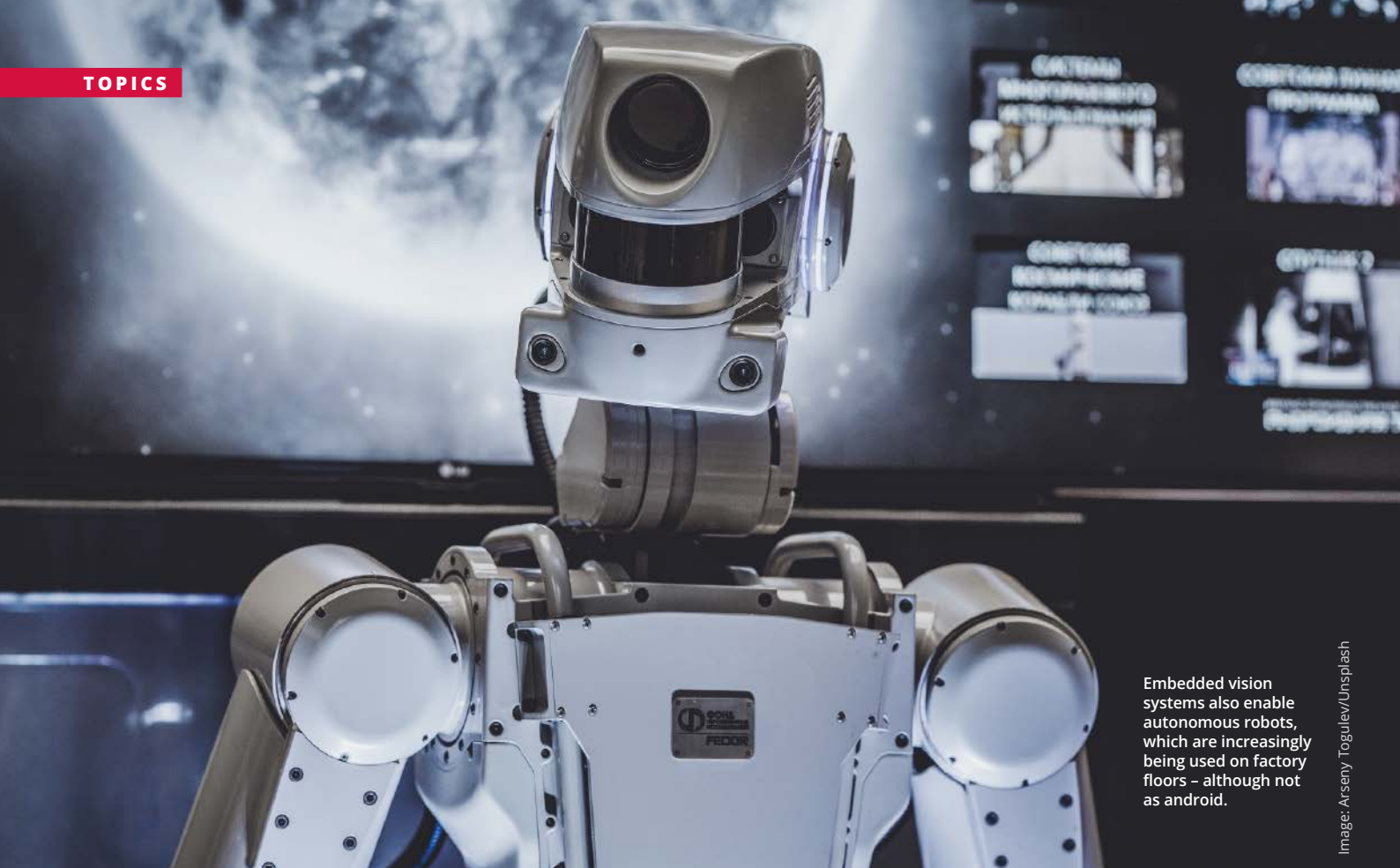
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Embedded vision systems also enable autonomous robots, which are increasingly being used on factory floors - although not as android.

Image: Arseny Togulev/Unsplash

Embedded Vision Will Dominate the Machine Vision Market

Key Trends, Forecasts, and Vendors

Embedded vision systems have clear advantages: Image acquisition and processing happen in the same place, smart cameras make integration easy as pie. It is not for nothing that the market has been growing massively for years. Current figures show that this trend is continuing. So will classic image processing become obsolete at some point?

Closer, faster, more direct. These are attributes that distinguish embedded vision from classic image processing. And at the same time, they are the reasons for its rapid rise in recent years. Because embedded systems promise to solve the image processing task better, because the camera does not have to send the data first over sometimes quite long paths through the plant, because the user saves a powerful industrial PC, and because the image processing system can thus become less complex and possibly less expensive.

Embedded Vision Market Continues to Grow Strongly

It's no coincidence that the embedded vision market has been growing strongly for years.

And there is no end in sight: for the years 2021 to 2028, analysts from Grand View Research expect an average annual growth rate of 12.3 percent in their study "Computer Vision Market Size, Share & Trends Analysis Report". By comparison, according to the report by Market Research Stats, the global image processing market as a whole will grow by five percent annually over the same period.

Traditional image processing, including peripherals such as industrial PCs, still accounts for the lion's share with 56 percent (in 2020, according to Grand View Research). From today's perspective, however, it seems clear that this will not remain the case. Jeff Bier, Founder of Edge AI and Vision Alliance, for example, explains in an interview



Image: Imago

The Vision AI smart camera uses an intelligent area scan camera in combination with the Google Coral processor.

"as the range of deployed vision applications grow, other classes of systems will vastly outnumber PCs".

Industrial PCs Remain Important for Imaging Applications

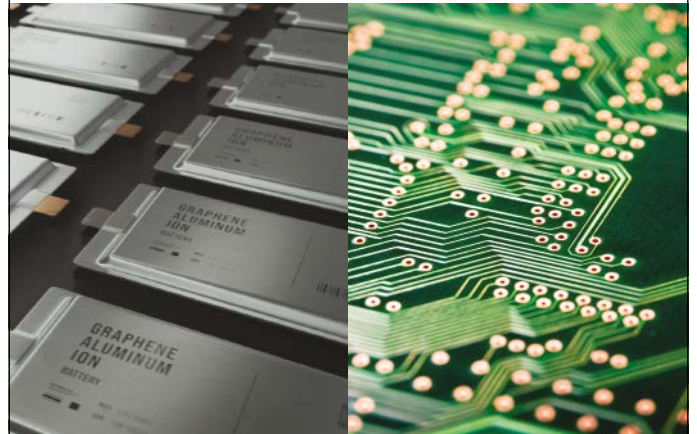
Still, as Jeff Bier adds, "PCs and their close cousins have some real advantages for the applications where they fit the performance, cost, power consumption and I/O require-

Image: Matrix Vision



An embedded vision camera module from Matrix Vision's MV Blue Naos family.

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ments". Because sometimes it has to be the high-performance PC. In addition, the higher integration costs of an individual embedded system compared to a PC-based machine vision system with standardized image processing libraries (familiar to the developer) must first be offset.

Smart Camera vs. Individual Embedded Vision System

However, smart cameras make this transition easier. They are primarily designed for easy integration and accommodate optics, lighting, data processing, and interfaces in the housing. The obvious disadvantage is that the user is dependent on the particular configuration fitting his application. It is therefore true that these systems are more suitable for simpler image processing tasks, despite the growing range on offer. The comparatively low integration effort is bought here with restrictions in flexibility. The best-known manufacturers include SVS-Vistek, Matrix Vision, Basler, Automation Technology, Imago, IDS, B&R, and more.

At the other end of the spectrum are the embedded vision systems based on System on

Chips (SOC) or System on Modules (SOM). Here the user has the greatest freedom to tailor the system to his needs, whether he relies on Nvidia's Jetson platform or Intel's Realsense technology, whether GigE-Vision or Mipi as the interface, whether FPGA or graphics card as the image processing center. Everything is freely programmable, and only as large and heavy as the application requires. However, the integration effort is incomparably higher than for smart cameras.

Suppliers of embedded vision systems or system components include Vision Components, Flir, Hema Electronic, Ximea, LMI, and more. ■

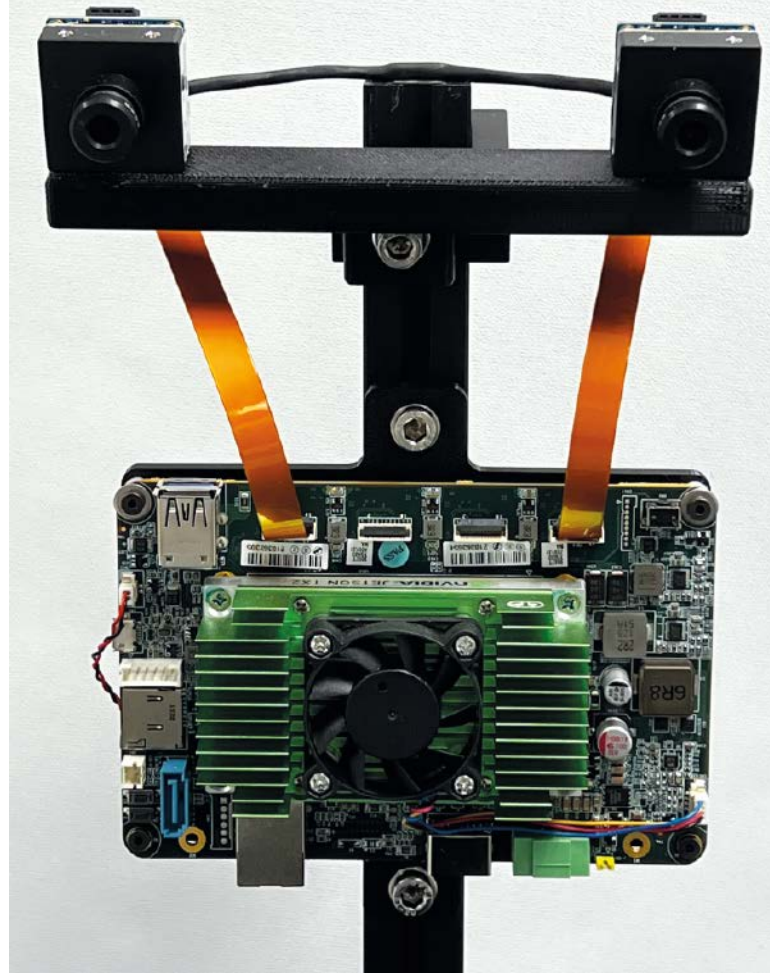
AUTHOR

David Löh

Editor-in-Chief of inspect

DIY Stereo System

How to Build a Custom Embedded Stereo System for Depth Perception Step by Step



This article first describes the main parts of a stereo vision system and then provides instructions on making an own custom stereo camera using off-the-shelf hardware components and open-source software. As this setup is focused on being embedded, it will compute a depth map of any scene in real-time, without the need of a host computer.

There are various 3D sensor options for developing depth perception systems including, stereo vision with cameras, lidar, and time-of-flight sensors. Each option has its strengths and weaknesses. A stereo system is typically low cost, rugged enough for outdoor use, and can provide a high-resolution color point cloud.

There are various off-the-shelf stereo systems available on the market today. Depending on factors such as accuracy, baseline, field-of-view, and resolution, there are times when system engineers need to build a custom system to address specific application requirements.

Stereo Vision Overview

Stereo vision is the extraction of 3D information from digital images by comparing the information in a scene from two viewpoints. Relative positions of an object in two image planes provides information about the depth of the object from the camera.

An Overview of a Stereo Vision System Consists of the Following Key Steps

1. Calibration: Camera calibration refers to both the intrinsic and extrinsic. The intrinsic

calibration determines the image center, focal length, and distortion parameters, while the extrinsic calibration determines the 3D positions of the cameras. This is a crucial step in many computer vision applications especially when metric information about the scene, such as depth, is required. We will discuss the calibration step in detail in Section 5 below.

2. Rectification: Stereo rectification refers to the process of reprojecting image planes onto a common plane parallel to the line between camera centers. After rectification, corresponding points lie on the same row, which greatly reduces cost and ambiguity of matching. This step is done in the code provided to build your own system.

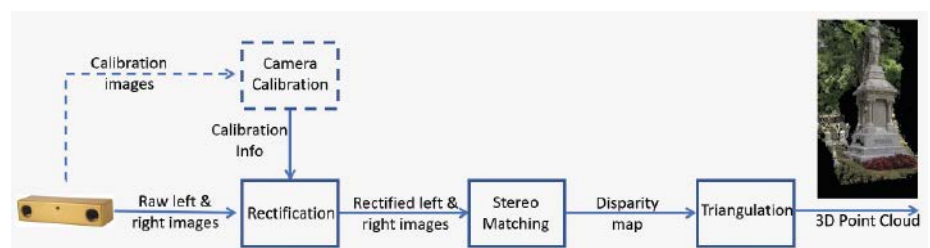
3. Stereo matching: This refers to the process of matching pixels between the left and right images, which generates disparity images. The Semi-Global Matching (SGM) algorithm will be used in the code provided to build your own system.

4. Triangulation: Triangulation refers to the process of determining a point in 3D space given its projection onto the two images. The disparity image will be converted to a 3D point cloud.

Design Example

Let's go through a stereo system design example. Here are the requirements for a mobile robot application in a dynamic environment with fast moving objects. The scene of interest is 2 m in size, the distance from the cameras to the scene is 3 m and the desired accuracy is 1 cm at 3 m.

You can refer to this article <https://www.flir.com/support-center/iis/machine-vision/application-note/stereo-accuracy-and-error-modeling/> for more details on stereo accuracy.



Overview of a stereo vision system

The depth error is given by: $\Delta Z = Z^2 / Bf * \Delta d$ which depends on the following factors:

- Z is the range
- B is the baseline
- f is the focal length in pixels, which is related to the camera field-of-view and image resolution

There are various design options that can fulfill these requirements. Based on the scene size and distance requirements above, we can determine the focal length of the lens for a specific sensor. Together with the baseline, we can use the formula above to calculate the expected depth error at 3 m, to verify that it meets the accuracy requirement.

Two options are shown in Figure 1, using lower resolution cameras with a longer baseline or higher resolution cameras with a shorter. The first option is a larger camera but has lower computational need, while the second option is a more compact camera but has a higher computational need. For this application, we chose the second option as a compact size is more desirable for the mobile robot and we can use the Quartet Embedded Solution for TX2 which has a powerful GPU onboard to handle the processing needs.

Hardware Requirements

For this example, we mount two Teledyne Flir Blackfly S board level 1.6 MP cameras using the IMX273 Sony Pregius global shutter sensor on a 3D printed bar at 12 cm baseline. Both cameras have similar 6 mm S-mount lenses. The cameras connect to the Quartet Embedded Solution for TX2 customized carrier board using two FPC cables. To synchronize the left and right camera to capture images at the same time, a sync cable is made that connects the two cameras.

Both lenses should be adjusted to focus the cameras on the range of distances your application requires. Don't forget to tighten the screw on each lens to keep the focus.

Software Requirements

a. Spinnaker

Teledyne Flir Spinnaker SDK comes pre-installed on your Quartet Embedded Solutions for TX2. Spinnaker is required to communicate with the cameras. Please refer to the QR Code at the end of the article.

b. OpenCV 4.5.2 with CUDA support

OpenCV version 4.5.1 or newer is required for SGM, the stereo matching algorithm we are using. Download the zip file containing the code for this article and unzip it to StereoDepth folder. Please refer to the QR Code at the end of the article.

The script to install OpenCV is OpenCVInstaller.sh. Type the following commands in a terminal:

```
cd ~/StereoDepth
chmod +x OpenCVInstaller.sh
./OpenCVInstaller.sh
```

The installer will ask you to input your admin password. The installer will start installing OpenCV 4.5.2. It may take a couple of hours to download and build OpenCV.

Calibration

The code to grab stereo images and calibrate them can be found in the "Calibration" folder. Use the SpinView GUI to identify the serial numbers for the left and right cameras. For our settings, the right camera is the master and left camera is the slave. Copy the master and slave camera serial numbers to file grabStereoImages.cpp lines 60 and 61. Build the executable using the following commands in a terminal:

```
cd ~/StereoDepth/Calibration
mkdir build
mkdir -p images/{left, right}
cd build
cmake ..
make
```

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Design option 1

- Global shutter sensor
- Resolution: 640 x 480
- Pixel size: 7.5 um
- Baseline: 24 cm
- 6 mm lens
- Larger camera, lower computational need



Design option 2

- Global shutter sensor
- Resolution: 1440 x 1080
- Pixel size: 3.45 um
- Baseline: 12 cm
- 6 mm lens
- More compact camera, higher computational need



Figure 1: Stereo system design options for an example application

Print out the checkerboard pattern from this link (www.ablwerbung.de/flir4.html) and attach it to a flat surface to use as the calibration target. For best results while calibrating, in SpinView set Exposure Auto to Off and adjust the exposure so the checkerboard pattern is clear and the white squares are not over exposed, as shown in Figure 2. After the calibration images are collected, gain and exposure can be set to auto in SpinView.

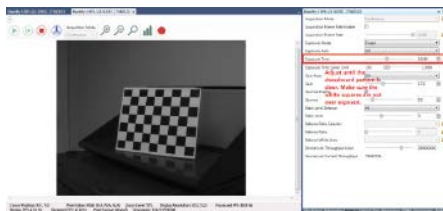


Figure 2: SpinView GUI settings

To start collecting the images, type:

```
./grabStereoImages
```

The code should start collecting images at about 1 fps. Left images are stored in images/left folder and right images are stored in images/right folder. Move the target around so that it appears in every corner of the image. You may rotate the target, take images from close by and from further away. By default, the program captures 100 image pairs, but can be changed with a command line argument:

```
./grabStereoImages 20
```

This will collect only 20 pairs of images. Please note this will overwrite any images previously written in the folders. After collecting the images, run the calibration Python code by typing:

```
cd ~/StereoDepth/Calibration
python cameraCalibration.py
```

This will generate 2 files called "intrinsic.yml" and "extrinsic.yml" which contain the intrinsic and extrinsic parameters of the stereo system. The code assumes 30 mm checkerboard square size by default but can be edited if needed. At the end of the calibration, it will display the RMS error which indicates how well the calibration is. Typical RMS error for good calibration should be below 0.5 pixel.

Real-time Depth Map

The code to calculate disparity in real-time is in the "Depth" folder. Copy the serial numbers of cameras to file live_disparity.cpp lines 230 and 231. Build the executable using the following commands in a terminal:

```
cd ~/StereoDepth/Depth
mkdir build
cd build
cmake ..
make
```



Figure 3: Sample left camera images and corresponding depth map. The bottom depth map also shows the depth at a particular point.

Copy the "intrinsic.yml" and the "extrinsic.yml" files obtained in the calibration step to this folder. To run the real-time depth map demo, type

```
./live_disparity
```

It would display the left camera image (raw unrectified image) and the depth map (our final output). The distance from the camera is color-coded according to the legend on the right of the depth map. The black region in the depth map means no disparity data was found in that region. Thanks to the Nvidia Jetson TX2 GPU, it can run up to 5 fps at a resolution of 1440 x 1080 and up to 13 fps at a resolution of 720 x 540.

To see the depth at a particular point, click on that point in the depth map and the depth will be displayed, as shown in the last example in Figure 3.

Summary

Using stereo vision to develop a depth perception has the advantages of working well outdoors, the ability to provide a high-resolution depth map, and very accessible with low-cost off-the-shelf components. Depending on the requirements there is a variety of off-the-

shelf stereo systems on the market. Should it be necessary for you to develop a custom embedded stereo system, it is a relatively straightforward task with the instructions provided here. ■

QR-Code for download of FLIR Spinnaker SDK



QR-Code for download of Open CV for FLIR Spinnaker SDK



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About Macnica ATD Europe

Macnica ATD Europe unites the European operations of stock-listed Japan-based Yokohama Macnica Inc. (headquartered in Yokohama/ Japan), one of the world's largest distributors of semi-conductors founded in 1972.

The roots of Macnica ATD Europe go back to the distributor of imaging solutions ATD Electronique which was fully acquired by Macnica Inc. in 2019; and the former German entity Macnica GmbH.

Today, Macnica Inc has established its European head-

quarter Macnica ATD Europe in Chatou near Paris with sales offices in several European countries.

It combines several decades of B2B semiconductor and imaging distribution experience with a vast product range covering memories, GNSS, IoT, and power management ICs as well as a focus on image sensors, optics, interface circuits, IPs, imaging processors, cables, and OLED micro displays; and a growing portfolio of ready to use AI solutions.

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About AutoVimation

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- Hygienic Building Kit for machine vision components
- Improved camera mounts
- Atex certified enclosure (presumably available in 2023)

Management

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sales@autovimation.com

Foundation

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4

Products

Protective Camera and Laser Enclosures and Accessories, LED Ring Light, Mounting Equipment, R&D, other

Applications

Character Recognition, Digitalization, High Speed Analysis, Inspection Piece Parts, Inspection Webbed Material, Material Testing, Metrology 2D/3D, Robot Vision 2D/3D, Particle Analysis, Part Identification, Symbol Recognition, Thermography

Industries served

Automotive and Suppliers, Electronics/Semiconductors, Energy/Water/Solar Technology, Foodstuffs/Beverages, Glass/Ceramics, Mechanical Engineering/Line Building, Medical Technology, Metal, Packaging, Paper/Wood, Pharmaceuticals/Cosmetics/Chemicals, Plastics, Precision Engineering/Optics/Machine Vision, Traffic/Logistics

Companies represented

Swivellink

Associations

VDMA

Regions served

Africa, Asia, Australia, China, Central Europe, EMEA, Europe, Japan, Latin America, North America, national, ROW



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Fax: +49 721 627 67 59
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About B&R



B&R is an innovative automation company with headquarters in Austria and offices all around the world. On July 6, 2017, B&R became a business unit of the ABB Group. As a global leader in industrial automation, B&R combines state-of-the-art technology with advanced engineering to provide

customers in virtually every industry with complete solutions for machine and factory automation, motion control, HMI and integrated safety technology. With Industrial IoT communication standards like OPC UA, Powerlink and openSafety as well as the powerful Automation Studio software development environment, B&R is constantly redefining the future of automation engineering. The innovative spirit that keeps B&R at the forefront of industrial automation is driven by a commitment to simplifying processes and exceeding customer expectations.

Company Official

Andreas Waldl, Product Manager Integrated Machine Vision
andreas.waldl@br-automation.com

Foundation

1983

Staff

ABB Robotics is part of the ABB Robotics & Discrete Automation business area, which, together with the Machine Automation Division, employs more than 11,000 people at over 100 locations in more than 53 countries.

Products

Cameras, Interfaces/Cables/Peripherals, Lighting Equipment, Optics, Smart Cameras/Embedded Systems, Software, Vision Sensors

Industries served

Automotive and Suppliers, Electronics/Semiconductors, Energy/Water/Solar Technology, Foodstuffs/Beverages, Mechanical Engineering/Line Building, Medical Technology, Metal, Packaging, Paper/Wood, Pharmaceuticals/Cosmetics/Chemicals, Plastics, Precision Engineering/Optics/Machine Vision

Associations

VDMA

Regions served

Africa, Asia, Australia, China, Central Europe, EMEA, Europe, Japan, Latin America, North America, national, ROW



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www.br-automation.com

Applications

Character Recognition, High Speed Analysis, Inspection Piece Parts, Metrology 2D, Part Identification, Particle Analysis, Robot Vision 2D, Symbol Recognition

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About Edmund Optics

Edmund Optics (EO) is a leading global supplier of optics, imaging, and photonics technology that serves a variety of markets since 1942. With headquarters in the US and manufacturing facilities in the US, Europe and Asia combined with global sales offices, EO offers around 35,000 products and has one of the largest inventories for immediate delivery.

With great competency in imaging and imaging components, EO provides complete imaging solutions, a large product selection, technical expertise, manufacturing capabilities, extensive



technical support, and assists customers in every way possible to maximize the performance of their imaging system.

From stock items in the catalog to customized versions of imaging lenses, from low to high volume: "EO - Your Partner in Imaging Optics!"

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EO Europe has locations in Finland, France, Spain, Germany, and the UK and cooperates with various representatives throughout the continent. Request our free catalogue for optical components, imaging products and laser optics.

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UK: +44 1904 788 600
Italy: +39 800 875 211
Spain: +34 914 197 354
Europe: +44 1904 788 600

If you are in one of these countries, please call the respective number. After regular business hours, English only.

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Applications Support

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Online Chat

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Helge Vogt, Managing Director
Edmund Optics GmbH
Martin Weinacht, Managing Director
Edmund Optics GmbH
Dr. Boris Lange, Manager Imaging Europe

Foundation

1942 in USA, 2000 in Germany

Staff appr. 1,000

Products

Cameras, Imaging Lenses, Lighting Equipment, Microscopes, Optics, Optical Components, etc.

Industries served

Electronics/Semiconductors, Medical Technology, Mechanical Engineering, Line Building, Pharmaceutical, Cosmetics, Chemical, Precision Engineering, Optics, Machine Vision, Traffic, Logistics, etc.

Associations

AIA, EMVA, JIIA

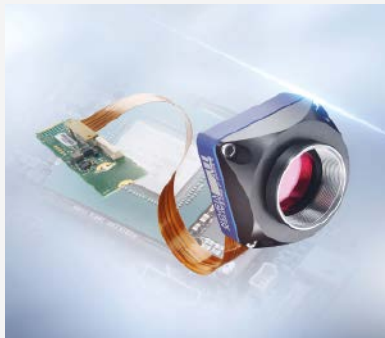
Regions served

Worldwide

About Matrix Vision

Matrix Vision is a manufacturer of components for industrial machine vision and is well-known for its wide and varied product range of industrial cameras, embedded vision solutions, vision sensors, smart 3D cameras and software. Based on a flexible modular camera kit Matrix Vision also develops customized solutions for special requirements, ranging from the individual component to the complete functional unit.

Based on many years of experience as a vision pioneer, we shape the future of industrial machine vision as an active



member of the standardization bodies for GigE Vision, USB3 Vision, and GenICam.

Since 2017 Matrix Vision has been a subsidiary of Balluff GmbH and is globally represented with a total of 38 Balluff offices worldwide.

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Office(s)

Worldwide distribution by Balluff subsidiaries

Management

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Uwe Hagmaier, VP R&D

Tobias Thullner, VP Finance & Administration

Dirk Muschert, Head of Global Key Account and Industry Management

Marcus Bleise, Head of Global Sales

Foundation

1986

Staff

100-200

Products

Industrial Cameras, Embedded Vision Cameras, USB3, GigE, 10GigE, and PCI Express Cameras, Vision Sensors, 3D Cameras, Software

Applications

High Speed Analysis, Inspection Piece Parts, Inspection Webbed Material, Material Testing, Metrology 2D, Part Identification, Particle Analysis, Robot Vision, Symbol Recognition, Others

Industries served

Automotive and Suppliers, Electronics/Semiconductors, Energy/Water/Solar Technology, Foodstuffs/Beverages, Glass/Ceramics, Mechanical Engineering/Line Building, Medical Technology, Metal, Packaging, Paper/Wood, Pharmaceuticals/Cosmetics/Chemicals, Plastics, Precision Engineering/Optics/Machine Vision, Traffic/Logistics, Other

Associations

A3, VDMA, PPMA

Regions served

Africa, Asia, Australia, Central Europe, China, EMEA, Europe, Japan, Latin America, North America

About Micro-Epsilon

Micro-Epsilon is a medium-sized company which plays a leading role in measurement technology. For more than 50 years we have offered reliable, high performance, unique solutions particularly when high precision measurement and inspection is required. Our product range covers sensors for the measurement of distance and displacement, sensors for IR temperature measurement and color detection, as well as systems for dimensional measurement and defect detection.



Innovative products that provide the highest level of precision are created through intensive research and development, unique expertise and a large network of collaborative operations.



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Foundation
1968

Staff
1,400

Products

Vision Sensors/Smart Cameras, Optical Instruments, Turn-Key Systems, Other

Applications

Inspection Piece Parts, Metrology 2D, Metrology 3D, Robot Vision 2D, Robot Vision 3D, Part Identification, High Speed Analysis, Thermography

Industries served

Automotive and Suppliers, Electronics/Semiconductors, Foodstuffs/Beverages, Glass/Ceramics, Mechanical Engineering/Line Building, Medical Technology, Metal, Paper/Wood, Pharmaceuticals/Cosmetics/Chemicals, Plastics, Precision Engineering/Optics/Machine Vision, Traffic/Logistics

Associations

AMA

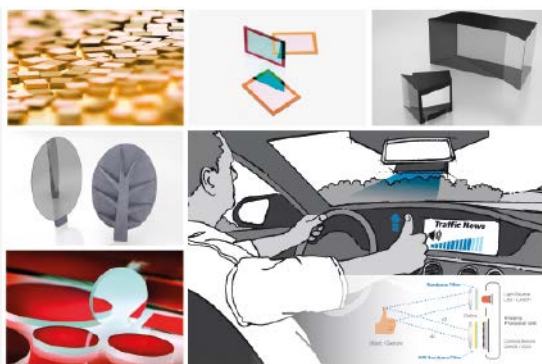
Regions served

Asia, China, Europe, North America, South/Central America, national

About Materion Optics Balzers

Materion Balzers Optics is a global leader in optical thin film coating solutions. We are the preferred partner for providing innovative optical coatings and solutions for over 70 years. From the UV through the Far IR, we custom manufacturer and supply precision optical filters and coatings. As a high-tech company with five production sites worldwide, our focus is on a variety of markets such as Life Science, Industry, Consumer, Lighting, Space, Defense and Automotive. With a full range of unparalleled products, services, and support technologies, our customers benefit from our strategically located global facilities that provide regional manufacturing and technical support.

Materion Balzers Optics superior quality products are fully supported by a large volume manufacturing environment that produces highly repeatable results, contributing to reduced costs and market advantage. We also have scalable processes that are economical for customers who require small quantities. Our technical expertise and access to broad resources throughout Materion, we are uniquely positioned to offer solutions to our customer's most demanding challenges. Our offerings include Filter Arrays, DLC, Ultra-Narrow Bandpass, Linear Variable, High Reflector, Patterned Coatings, Wafer Level Coatings, and Getters, and many others.



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Foundation
2009 / 1946

Staff

800

Products

Optics, Optical Coatings, Optical Components

Industries served

Automotive, Medical Technology, Packaging, Precision Engineering/Optics/Machine Vision, Semiconductor, Space

Applications

Others

Regions served

Americas, Asia, EMEA, Europe



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About Opto



Opto produces intelligent digital microscopes and vision sensors as imaging modules and job modules for medtech and industry applications in standard and custom versions.

We deliver AI ready images and specific DATA sets to be implemented into biomed screening machines and industry 4.0 solutions.

Multi-fluorescence, flow cytometry, laserintegration and microfluidic lab on a chip imaging applications, for the integration into machines or POCT devices are our daily business.

Opto designs and produces standardized job modules with special software for dedicated applications. Plug and operate.

With over 40 years of experience in delivering specific opto-mechatrical solutions together with high end software features we are the perfect partner for integrators, product manufacturers and machine builders.



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Thomas Rampertshammer,
CCO

Foundation
1980

Staff
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Products
Imaging Modules, Digital
Microscopes, Custom OEM
Modules, Job Modules, Vision
Sensors, Software

Applications
Flow Cytometry, Microflu-
idic, Cell Analysis, Inspection,
Material Testing,

Industries served
Biotechnology, Automotive
and Suppliers, Electronics/
Semiconductors, Mechanical
Engineering, Medical
Technology, Metal, Precision
Engineering/Optics/Machine
Vision, Molecular Biology,
Pathology, Oncology,
Bioscreening, Medtech,
Machine Vision, Microscopy,
Ophthalmology, IVF

Associations
AIA, EMVA, VDMA,
Bayern Photonics, EPIC

Regions served
Asia, Australia, China, EMEA,
Europe, Japan, Latin America,
North America

About SVS-Vistek

SVS-Vistek GmbH – a member of the TKH Group – is an innovative manufacturer of high-quality cameras for industrial image processing for more than 30 years. We are known for state-of-the-art, high-resolution and high-speed cameras that push the boundaries of what is possible in machine vision. Our range of products include standard cameras as well as custom designed or modified cameras. We are committed to the highest image quality and use the latest interfaces in our cameras. We offer unique know how and experience in the field of machine vision.



With powerful components such as lenses, lighting, filters, frame grabbers and cables, we support customers in the realization of economical and, if necessary, individual image processing solutions for a wide range of industries.



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Management
Dipl.-Phys. Walter Denk, CEO
Patrick Schläfle, CFO
Björn Krasemann, CCO

Foundation
1987

Staff
90-120

Products
Cameras, Consulting, Frame
Grabber, Integration Services,
Interfaces/Cables/Peripher-
als, Lighting Equipment, Optics,
Software, Vision Sensors

Applications
Character Recognition, High
Speed Analysis, Motion Analy-
sis, Inspection Piece Parts, Me-
trology, Part Identification, Ro-
bot Vision, Symbol Recognition,
Machine Process Analysis,
Crash Test, Others

Industries served
Automotive and Suppliers,
Electronics/Semiconductors,
Energy/Water/Solar Technol-

ogy, Foodstuffs/Beverages,
FPD Quality Control, Glass/
Ceramics, Mechanical Engi-
neering/Line Building, Metal,
Packaging, Paper/Wood,
Pharmaceuticals/Cosmetics/
Chemicals, Plastics, Precision
Engineering/Optics/Machine
Vision, Traffic/Logistics

Companies represented
Euresys, Kowa, Moritex,
Myutron

Associations
AIA, EMVA, VDMA, CMVU, JIIA

Regions served
Asia, Central Europe, China,
EMEA, Europe, Japan, Latin
America, North America

About Waygate Technologies

As an industrial inspection solutions company and the world leader in non destructive testing (NDT), hundreds of brands in the automotive, aerospace, electronics, energy, battery and additive industries trust our technologies to ensure safety, quality and productivity. Our business offers a broad portfolio of award-winning solutions in industrial radiography and computed tomography (CT), remote visual inspection (RVI), ultrasound (UT), eddy current, and robotic inspection. We help customers



drive their digital transformation by applying state-of-the-art data and analytics to their assets and processes for best-in-class insights.

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waygate_technologies
@bakerhughes.com

Management

Ben Linke, CEO

Foundation

1892

Staff

1,500

Products

Integration Services, R&D, Software, X-ray equipment, Optical Instruments, Topography

Applications

Digitalization, Material Testing, Metrology 2D/3D, Robot Vision 3D

Associations

VDMA, VDI, ASNT, DGZfP, BINDT

Regions served

Africa, Asia, Australia, China, EMEA, Japan, Latin America, North America



Waygate Technologies

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waygate_technologies
@bakerhughes.com
www.waygate-tech.com



About Ximea

Ximea – Imaging Beyond the Standard

Technology-driven and always seeking innovative solutions, we focus on extremely fast interfaces and the newest sensor technologies, packaged into super small and robust camera housings. In all our designs we strive to propel our core properties: maximum sensor performance, ease and flexibility of integration, super low latencies, and power efficiency.

Ximea serves all types of tech companies around the world, from global players to small start-ups. Our camera technologies allow customers to make their applications possible or

elevate their products to new standards. The applications for our camera systems are endless. Ultimately, it is our customers' requirements matched with the features of the camera that determine the solution.

Mutual exchange and interactive collaboration is the essential philosophy of Ximea. Together with our clients, our experienced and skilled technical engineering team faces complex demands and solves individual challenges, not only with standard products but also with anything from small modifications to full custom designs.

Office(s)

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www.ximea.com

Management

Vasant Desai, CEO
Michail Klimkovic, CEO
Jürgen Hillmann,
Managing Director

Foundation

2010

Staff

50–100

Products

Hyperspectral-, X-Ray-, USB-, PCIe-, Subminiature Cameras, OEM Cameras

Applications

Astronomy, (Aerial) Mapping, Digitalization, Metrology 2D/3D,



Microscopy, Part Identification, Particle Analysis, Robot Vision 2D/3D, Symbol Recognition, Virtual Reality, Other

Industries served

Agriculture, Automotive and Suppliers, Defense, Electronics/Semiconductors, Embedded Vision, Machine Vision, Medical Technology, Packaging, Paper/Wood, Plastics, Traffic/Logistics, UAV, Other

Associations

AIA, EMVA, VDMA, Other

Regions served

Worldwide



Ximea GmbH

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Fax: +49 251 202 408 99
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www.ximea.com



Showcase

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High Performance Line Scan Camera

Rich Models

Covering from 2 k to 16 k pixels, our cameras are available with GigE and Camera Link interfaces.

Multiple Pixel Sizes

The maximum pixel size is 14 μm . Others are 3.5 μm , 5 μm , 7 μm .

Excellent Imaging Performance

Line scan cameras support various ISP algorithms and correct functions, such as color abnormal correction, super palette, CCM, PR-NUC/FPNC and high SNR to offer top-quality images. Part of them also support true color image in RGB mode.

High Line Rate

The maximum line rate of Camera Link model is 100 kHz at all full resolution while that of GigE model is 1.5–2.5 times higher due to HB function.

Multi-field Imaging

The cameras support multi-field imaging with 4 lights at most. This



saves workstations and outputs images under different lights using only one camera cooperated with multiple lights. The image brightness of some models is further increased due to TDI function.

Wide Applications

Suitable for lithium battery, photovoltaic, PCB, printing industries, etc.

HIKROBOT

Hangzhou Hikrobot Co., Ltd.

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Binjiang District
310052, Hangzhou
China
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hikrobot@hikrobotics.com
www.hikrobotics.com/en/

Efficient Imaging Systems

Industrial cameras

Versatile, lightweight, and equipped with the latest CMOS and sCMOS sensors, our USB3 and PCIe cameras are the perfect fit for system integrations, multi-camera aggregations, or embedded systems.

Scientific cameras

Our scientific cameras cover the fields of hyperspectral, high-resolution X-ray, or low-light scientific imaging. Besides series production, all these cameras are also highly customizable.

Custom engineering

We design for performance! Starting from scratch or using any existing Ximea product as a seed, we provide services all the way up to full custom developments and manufacturing.

Ecosystems

We expanded our portfolio by adding components and devices that facilitate a more holistic system assembly. All our standard accessories are tested and verified for quality, fit, and performance.



Software & Tools

Ximea supports more than 30 of the most popular machine vision libraries. Our CamTool is capable of setting most camera parameters, controlling various features, displaying the video stream, and saving snapshots and sequences.

ximea

Ximea GmbH

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www.ximea.com

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Switzerland

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Solution Provider

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Distributor, Machine Builder/OEM, Producer, Solution Provider

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Producer, Solution Provider

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Distributor

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Other

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Distributor, Producer

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Producer

Founded in 1983, Advantech is a leader in providing trusted, innovative products, services, and solutions. Advantech offers comprehensive system integration, hardware, software, customer-centric design services, embedded systems, automation products, and global logistics support. We cooperate closely

with our partners to help provide complete solutions for a wide array of applications across a diverse range of industries. Our mission is to enable an intelligent planet with Automation and Embedded Computing products and solutions that empower the development of smarter working and living.

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Producer, Solution Provider

Software: Image processing toolkit
heurisko Quick heurisko-based custom image processing solution
Camera and image sensor testing according to EMVA 1288 and beyond:
Measuring services Customizable test equipment Consulting.

Education: EMVA 1288 standard Computational imaging 3D image acquisition Technical optics for image processing

Aeon Verlag & Studio GmbH & Co. KG · Alter Rückinger Weg 31, 63452 Hanau, Germany, Tel: +49 6181 520 510, info@aeon.de, www.aeon.de

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Distributor

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Research Facility

The AIT Austrian Institute of Technology, Austria's largest non-university research institute, is among the European research institutes a specialist in the key infrastructure issues of the future. In the field of high-performance

image processing AIT has a recognized position on the international technological and scientific level. More than 100 experts conduct research in close collaboration with leading companies in industry and science.

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petra.thanner@ait.ac.at, www.ait.ac.at/themen/high-performance-vision/

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Distributor

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Integrator

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Producer

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Producer

For 25 years, Allied Vision Technologies has been helping people see the bigger picture. Allied Vision's camera portfolio is one of the largest in the market and offers a camera for nearly any application. If no standard product fits, the Allied Vision Modular Concept creates additional flexibility

providing hardware option combinations that are almost endless. Allied Vision cameras are easy to integrate into any machine vision system thanks to our Software Development Kit (SDK) that is compatible with all common operating systems, camera interfaces and image-processing libraries.

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Distributor, Producer, Solution Provider

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Solution Provider

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Producer

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Producer

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Producer

AMS is a global leader in the design and manufacture of advanced sensor solutions which drive applications requiring small form factor, low power, highest sensitivity and multi-sensor integration. Products include sensor solutions, sensor ICs, interfaces and

related SW for consumer, communications, industrial, medical, and automotive markets.

With HQs in Austria, AMS employs about 9,000 people globally and is listed on the SIX Swiss stock exchange (AMS).

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Distributor, Producer, Solution Provider

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Solution Provider

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Consultant, Producer

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Solution Provider

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Distributor, Integrator, Machine Builder/OEM

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Tel: +41 41 666 78 78, info@aurovis.ch, www.aurovis.ch

Manufacturer / Producer

AT – Automation Technology is one of the global leading technology companies in the field of special imaging sensor technology. For more than 20 years, we have been developing and producing intelligent infrared cameras, high-precision 3D sensors and unique sensor solutions that are used in industrial process automation as well as in monitoring and inspection tasks worldwide. A dense network of international sales and service partners ensures individual consulting as well as perfect service and support.

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Producer

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Tel: +49 721 627 67 56, sales@autovimation.com, www.autovimation.com

Producer

B & M Optik GmbH · Am Fleckenberg 20, 65549 Limburg, Germany,
Tel: +49 6431 986 00, baldus@bm-optik.de, www.bm-optik.de

Producer, Solution Provider

B&R · Am Weidenring 56, 61352 Bad Homburg, Germany, Tel: +49 6172 4019 0,
office.de@br-automation.com, www.br-automation.com

Producer

Balluff GmbH · Schurwaldstr. 9, 73765 Neuhausen, Germany,
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Producer, Solution Provider

BAP Image Systems GmbH · Am Weichelsgarten 7, 91058 Erlangen, Germany,
Tel: +49 9131 691 540, info@bapis.de, www.bapis.de

Producer

Basler AG · An der Strusbek 60-62, 22926 Ahrensburg, Germany,
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Producer, Solution Provider

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Integrator, Solution Provider

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Consultant, Distributor

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Producer

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Producer

Zeiss ZF lenses for industrial applications are key components in complex production processes as well as in measuring tasks, quality assurance and many other applications. The infrared lenses of the ZF series are suitable for the use with special cameras like IR cameras without an IR block-

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Carl Zeiss AG · Carl-Zeiss-Str. 22, 73446 Oberkochen, Germany,
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System Solution Provider

Carl Zeiss Automated Inspection GmbH · Robert-Bosch-Str. 1/1, 74632 Neuenstein, Germany, Tel: +49 7364 20-6337, info.metrology.de@zeiss.com, www.zeiss.de/messtechnik

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HGV supplies scaleable turnkey machine vision solutions for all kinds of quality inspection: Flexible measurement systems (FMS) with robots, in-

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Producer

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Distributor, Producer

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Solution Provider

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Machine Builder/OEM, Producer, Solution Provider

Chromasens develops and produces both standardized machine vision components – as color line scan cameras, spectral cameras, 3D stereo cameras and line scan lights – and custom-specific image processing solutions. Chromasens employees have comprehensive expertise in de-

velopment, project management, application creation, system integration and professional services. The intensive cooperation with the customer in the form of comprehensive support throughout every project phase is a cornerstone of the company philosophy.

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Producer

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Integrator

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Producer

Cognex Corporation designs, develops, manufactures, and markets machine vision sensors and systems. Cognex vision sensors are used in factories around the world to automate the manufacture of a wide range of items and to assure their quality. Cognex is the world's leader in the machine vision

industry, having shipped more than 450,000 machine vision systems, since the company's founding in 1981. In addition to its corporate headquarters in Natick, Massachusetts, Cognex also has regional offices and distributors located throughout North America, Japan, Europe, Asia, and Latin America.

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Producer

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Machine Builder/OEM

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Consultant, Integrator, Producer, Solution Provider

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Producer, Solution Provider

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Consultant, Distributor, Integrator, Machine Builder/OEM

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Producer

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Research Facility, Solution Provider

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Solution Provider

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Consultant

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Solution Provider

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Distributor

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Distributor, Producer

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Solution Provider

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Producer

ElektroPhysik Dr. Steingroever GmbH & Co. KG · Pasteurstr. 15, 50735 Köln, Germany, Tel: +49 221 752 040, info@elektrophysik.com, www.elektrophysik.com

Producer

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Distributor, Producer, Solution Provider

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Producer

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Solution Provider

Erhardt+Leimer GmbH · P.O. Box 10 15 40, 86136 Augsburg, Germany,
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Producer

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Distributor

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Producer, Solution Provider

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Solution Provider

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Consultant, Producer, Other

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Producer

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Manufacturer / Producer

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Excelitas PCO GmbH (vorher: PCO) · Donaupark 11, 93309 Kelheim, Germany,
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Producer

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Integrator, Solution Provider

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Producer, Solution Provider

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Producer

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Flir Integrated Imaging Solutions GmbH · Schwieberdinger Str. 60, 71636 Ludwigsburg, Germany, Tel: +49 7141 488 817 0, mv-eusales@flir.com, www.flir.com/mv

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Distributor, Solution Provider

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Research Facility

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Institute (Research Facility)

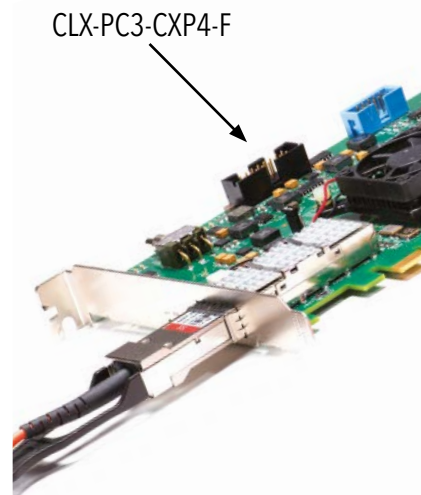
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Institute (Research Facility)

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Today's Machine Vision News:

- > CoaXPress supports fiber-optic connections
- > BitFlow releases the Claxon-Fiber



- CXP over fiber frame grabber
- Four fiber optic links, each carrying 12.5 Gb/S
- Supports one to four cameras
- CoaXPress 2.0 compliant
- Standard QSFP+ port
- PCIe x8 Gen3

This cable carries the equivalent of four CXP-12 coax cables



Cables lengths well over a kilometer are supported

Institute (Research Facility)

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Institute (Research Facility)

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Research Facility

400 scientists and engineers provide top service in applied research in the fields of industrial manufacturing and automation, medical technology, and improved quality of life. With an annual budget of more than 40 million euros, we develop customer-specific innovative MEMS components and microelectronic parts on 200 mm & 300 mm wafers to complete whole systems.

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Producer

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Integrator, Solution Provider

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Producer

Tapping into optical technologies and precision processing and assembling technologies nurtured over many years, Fujifilm offers a wide variety of Fujinon lenses. The Fujinon brand is world-renowned for its innovative and reliable products in the field of broadcast & cine lenses, binoculars, CCTV lenses, machine vision applications as well as for special custom made optical products, for example those used in digital projectors, automobiles and in many other applications.

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Producer

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Producer

Hamamatsu Photonics Deutschland GmbH
Arzbergerstr. 10 82211 Herrsching, Germany,
Tel: +49 8152 375 0, info@hamamatsu.de, www.hamamatsu.de

Producer

Hasotec GmbH · Burgwall 20, 18055 Rostock, Germany,
Tel: +49 381 490 98 34, info@hasotec.com, www.hasotec.com

Research Facility

The strategic concept of the HCI is built on the fact that basic problems in image processing are largely application-independent. The approximately 80 scientists working in the HCI conduct basic research with the aim of

providing cutting-edge solutions to basic image analysis problems for applications in industry and sciences. The HCI is part of the institutional strategy of the University of Heidelberg within the Excellence Initiative.

HCI at IWR Heidelberg University

Berliner Str. 43, Mathematik B, 69120 Heidelberg, Germany, hci@iwr.uni-heidelberg.de, <https://hciweb.iwr.uni-heidelberg.de/>

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Solution Provider

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Producer

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Producer, Research Facility

Hema Electronic GmbH · Roentgenstr. 31, 73431 Aalen, Germany, Tel: +49 7361 949 50, info@hema.de, www.hema.de

Machine Builder/OEM

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Research Facility

The department of optical technologies and machine vision (Optotechnik und Bildverarbeitung) is part of the faculty of mathematics and natural sciences at Darmstadt University of Applied Sciences (Hochschule Darmstadt). The joint experience of 12 professors from various fields of optics,

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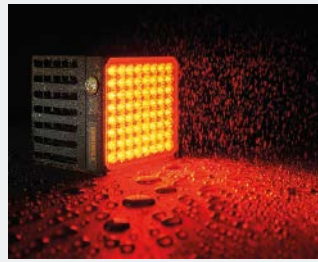
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Manufacturer / Producer

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Producer

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Solution Provider

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Consultant, Integrator, Machine Builder/OEM, Solution Provider

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Consultant, Integrator

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Machine Builder/OEM

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Consultant, Solution Provider, Other

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Solution Provider

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Producer

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Producer, Solution Provider

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Integrator, Solution Provider

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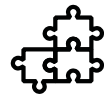
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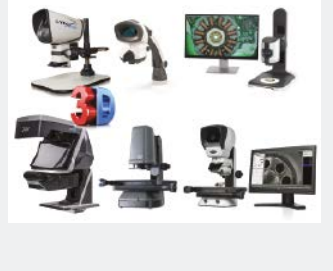
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Zertrox GmbH & Co. KG · Altstraße 52, 52066 Aachen, Germany,
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Machine Builder/OEM, Producer, Solution Provider

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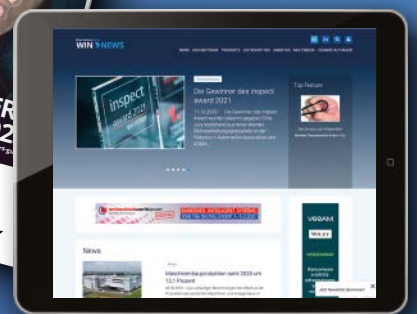
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Active Silicon Ltd. · Pinewood Mews, Bond Close, Iver SL0 0NA, United Kingdom,
Tel: +44 1753 650 600, info@activesilicon.com, www.activesilicon.com

Producer

Adaptive Vision · ul. Bojkowska 37A, 44-100 Gliwice, Poland,
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Tel: +31 40 235 39 00, www.adimec.com

Distributor

Advanced Technologies S.p.A. · via Giosuè Carducci 35, 20090 Trezzano sul Naviglio, Italy, Tel: +39 02 44 55 154, info@adv-tech.it, http://www.adv-tech.it

Manufacturer / Producer

Advantech Europe BV · Ekkersrijt 5708 Science Park, 5692 ER Son Eindhoven, Netherlands, Tel: +1 888 576 9668, https://www.advantech.eu/

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Alditech · Institutskaya, 142290 Pushchino, Russia,
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Solution Provider

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Producer

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Manufacturer / Producer

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www.aprex-solutions.com/

Solution Provider

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Producer

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Tel: +44 118 975 13 55, sales@bentham.co.uk, www.bentham.co.uk

Manufacturer / Producer

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Tel: +33 0800 730069, commercial@bizerba.fr, www.bizerba.com

Manufacturer / Producer

Carl Zeiss AG · c/o Carl Zeiss Shared Services Sp. z o.o. ul. Abpa A. Baraniaka 88E, 61-131 Poznan, Poland, Tel: +49 800 934 77 33, www.zeiss.com/lenses4industry

Producer

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Tel: +32 2 333 00 80, info@ccseu.com, www.ccs-grp.com

Distributor

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DataVision s.r.o. · Krajinská 1487/2a, 10100 Prague 10, Czech Republic,
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Solution Provider

Digital Surf · 6 rue Lavoisier, 5000 Besançon, France,
Tel: +33 3 815 048 00, contact@digitalsurf.fr, www.digitalsurf.com

Integrator

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Association

The European Machine Vision Association EMVA is a non-for-profit and non-commercial association representing the Machine Vision industry in Europe. The association has been founded in 2003 in Barcelona by industry representatives from all over Europe as a network to promote the development and use of machine vision technology. The EMVA is open for all types of organizations having a stake in machine vision, computer vision, embedded vision or imaging technologies.

EMVA - European Machine Vision Association
Gran Via de Carles III, 84 (3rd floor), 08028 Barcelona, Spain,
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Producer

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Distributor

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Solution Provider

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Tel: +386 1 589 75 81, info@fdsresearch.si, www.fdsresearch.si

Machine Builder/OEM

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Manufacturer / Producer

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Producer

Fort SA · 3 rue Lambert ZL de la Gaudre, 91410 Dourdan, France,
Tel: +33 1 608 118 18, info@fort-fr.com, www.fort-fr.com

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Tel: +44 1954 234 970, vision@gardasoft.com, www.gardasoft.com

Producer

Gas Sensing Solutions (GSS) · 60 Grayhill Road, G68 9HQ Cumbernauld, United Kingdom, Tel: +44 1236 781 900, info@gassensing.co.uk, www.gassensing.co.uk/

Producer

Global Laser Ltd. · Units 9-10 Roseheyworth Business Park, NP131SP Abertillery,
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Machine Builder/OEM

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United Kingdom, Tel: +44 1732 360 460, sales@graticulesoptics.com,
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Solution Provider

Hexagon Manufacturing Intelligence · World Headquarters Office,
Cedar House, 78 Portsmouth Road, KT11 1AN Cobham, Surrey, United Kingdom,
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Research Facility

Ideko S.Coop develops its activity in eight research lines under the common scope of developing new products and/or services for manufacturing industry. In particular, Inspection

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System Solution Provider

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Machine Builder/OEM, Solution Provider

Irida Labs · Patras Science Park, 26504 Rio, Achaia, Greece, Tel: +30 26 109 115 68, info@iridalabs.gr, www.iridalabs.gr

Machine Builder/OEM

Ivisys · Siktgatan 2, 162 50 Vällingby, Sweden, Tel: +46 073 464 66 63, vp@ivisys.com, www.ivisys.com

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JAI is a global manufacturer of digital cameras for machine vision, traffic imaging, global security, medical imaging and scientific research. Besides a broad range of leading-edge 1-CMOS progressive area scan and line scan cameras, JAI is a leading provider of multi-imager cameras incorporating advanced prism-block tech-

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Integrator, Solution Provider

JasVisio - Vision Artificial · Olivera, 3, 25286 Olius, Spain, Tel: +34 973 100 602, info@jasvisio.com, www.jasvisio.com

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Distributor

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Producer

Lambert Instruments · Leonard Springerlaan 19 (5th floor), 9727 KB Groningen, Netherlands, Tel: +31 50 501 84 61, info@lambertinstruments.com, www.lambertinstruments.com

Producer

Laser Quantum Ltd. · Emery Court, SK4 3GL Stockport, United Kingdom, Tel: +44 161 975 53 00, info@laserquantum.com, www.laserquantum.com

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Producer

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Solution Provider

Neadvance Machine Vision S.A. · Travessa de Gaiao, 5/6 2ªFase, 4705-025 Braga, Portugal, Tel: +49 3221 322 21 53, sales.de@neadvance.com, www.neadvance.com

Producer

New Imaging Technologies (NIT) · 1-4 Impasse de la noisette, Bat D-1er étage, 91370 Verrières le Buisson, France, Tel: +33 1 644 788 58, info@new-imaging-technologies.com, www.new-imaging-technologies.com

Producer

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Producer, Solution Provider

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Producer

Omron Microscan Systems Inc. · Lemelerberg 17, 2402 ZN Alphen aan den Rijn,
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Manufacturer / Producer

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Integrator, Solution Provider

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Producer

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Producer, Solution Provider, Other

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Distributor, Producer

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Solution Provider

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Solution Provider

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Tel: +39 03 463 043 219, m.rossi@robosystemsrl.com, www.robosystemsrl.com

Manufacturer / Producer

Rockwell Automation Ltd · Pitfield Kiln Farm Milton Keynes MK11 3DR,
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Solution Provider

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Solution Provider

SEA Vision · via Folla di Sopra, 21, 27100 Pavia, Italy,
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Producer, Solution Provider

Sensofar · Parc Audiovisual de Catalunya, Crta. BV-1274 Km 1, 8225 Terrassa,
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Producer

Silios Technologies is specialized in micro-optics. Design and manufacture of VIS/NIR multispectral cameras and custom multispectral filters for any pixelated sensors from any manufacturer. Also diffractive optics for intense

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Producer

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Producer

Smartek Vision · Bana Josipa Jelacica 22c, HR-40000 Cakovec, Croatia, Tel: +385 40 493 800, info@smartekvision.com, www.smartekvision.com

Producer

Sony Europe Ltd. · The Heights, Brooklands, KT13 0XW Weybridge, Surrey, United Kingdom, Tel: +33 1 559 035 12, zone@eu.sony.com, www.pro.sony.eu/vision

Producer

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Distributor

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Distributor

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Distributor

Stemmer Imaging AB · Sandhamnsgatan 63C, 102 52 Stockholm, Sweden, Tel: +46 85 551 10 00, michael.cohn@stemmer-imaging.se, www.stemmer-imaging.com

Machine Builder/OEM

Stil · 595 rue Pierre Berthier - Domaine Saint Hilaire, 13855 Aix-en-Provence, France, Tel: +33 4 423 966 51, contact@stilsa.com, www.stilsa.com

Producer

Sundance Multiprocessor Technology Ltd · "Cilern House", HP5 1PS Waterside, Chesham, United Kingdom, Tel: +44 1494 793 167, divp@sundance.com, www.sundance.com

Association

SYMOP - Syndicat des machines et technologies de production · 45 Rue Louis Blanc Maison de la mécanique, 92038 Paris-La Défense Cedex, France, Tel: +33 02 35 81 80 00, contact@visionic.fr, www.visionic.fr/

Solution Provider

Techway · 19 avenue de Norvège, 91140 Villebon sur Yvette, France, Tel: +33 1 64 53 37 90, info@techway.fr, http://www.techway.fr

Manufacturer / Producer

Teledyne e2v is designer and manufacturer of high tech electronic components and subsystems including semiconductors, sensors and electronic tubes. E2v supplies high performance CCD and CMOS imaging sensors and cameras for a broad range of demanding applications, operating

across the electro-magnetic spectrum from X-rays, through ultraviolet and visible light to infrared. Delivered to standard or highly customized designs, our sensors serve space, astronomy, dental, scientific, medical and industrial markets.

Teledyne e2v Semiconductors SAS · P.O. Box 123, 38521 Saint Egrève Cedex, France, Tel: +33 0 4 76 58 30 00, www.teledyne-e2v.com/

Producer

Teledyne e2v Ltd is a leading designer and manufacturer of high performance image sensors (CMOS, CCD, EMCCD) and cameras for a broad range of applications including machine vision, medical, science,

aerospace and defense imaging. e2v produces the class-leading Uniiqa+, Eliixa+, Aviiva, and Diviina line scan camera ranges, which address a broad range of applications.

Teledyne e2v Ltd · 106 Waterhouse Lane, CM1 2QU Chelmsford, United Kingdom, www.teledyne-e2v.com/

Producer

Teledyne Innovaciones Microelectronicas SLU is specialized in the design and production of custom high-speed, high-performance CMOS camera systems on-chip (camera SoC) and vision systems on-chip (VSoC) for industrial, surveillance, scientific, and medical ap-

plications. The team consists of fifty experienced and highly specialized engineers and PhDs expert in high-performance image sensor and SoC design, and in all aspects of vision technology.

Teledyne Innovaciones Microelectronicas SLU
C/ Isaac Newton 4, Pabellón de Italia, Planta 5 SE-NE, 41092 Sevilla, Spain, Tel: +34 954 081 273, https://teledyne-anafocus.com

Solution Provider, Producer

MSC and SGCC started inside two famous glassmakers: 1963 MSC is created within BSN, as a small department, to invent on-line inspection solutions for its hollow glass production. 1973 SGCC starts its existence

within Saint-Gobain glassmaker to perform multi-inspection on glass containers with the first star-wheel principle machine. On December 1st, 2015 the corporate name of the company has changed for Tiama.

Tiama Group · ZA des Plattes, 1 Chemin des Plattes, 69390 Vourles, France, www.tiama.com

Producer

Tordivel AS · Storgata 20, 184 Oslo, Norway, Tel: +47 2315 870 0, office@toridvel.no, www.scorpionvision.com

Producer

TriVision · Havnegade 23, 5000 Odense, Denmark, Tel: +45 28 353 135, korsgaard@trivision.dk, www.trivision.dk

Integrator

Operating in Europe, US and Asia markets for over 20 years, TST Engineering & Vision is specialized in artificial vision products and solutions. The

company designs, develops and deploys artificial vision systems for quality control, track & trace of industrial processes.

TST Engineering & Vision · Rua do Centro Empresarial Beloura Office Park Edifício 7 - Piso 0 - Loja 2, 2710 - 693 Sintra, Portugal, contact@tstvision.com, www.tstvision.com

Producer

TVI Vision · Asentajankatu 3, 880 Helsinki, Finland,
Tel: +358 207 579 518, www.tvivision.com

Association

UKIVA - UK Industrial Vision Association · Stafford Road, SM6 9AA Wallington, Surrey, United Kingdom, Tel: +44 20 8773 8111, chris.valdes@ppma.co.uk, www.ukiva.org

Integrator, Solution Provider

Univision Srl · via Appiani 3, 20038 Seregno, Italy,
Tel: +39 0362 600 201, info@univision.it, www.univision.it

Machine Builder/OEM

Videometer A/S · Lyngso Allé 3, 2970 Horsholm, Denmark,
Tel: +45 457 610 77, info@videometer.com, www.videometer.com

Distributor, Producer

Vision Light Tech · Protonenlaan 22, 5405 NE Uden, Netherlands,
Tel: +31 413 260 067, info@vlt.nl, www.visionlighttech.com

Distributor

Visionlink Srl · Via Marco Polo 22, 20038 Seregno, Italy,
Tel: +39 0362 600 202, info@visionlink.it, www.visionlink.it

Distributor, Integrator, Solution Provider

Vistek Machine Vision and Automation AS · Kemal Nehrozoglu caddesi, 41480 Kocaeli, Turkey, Tel: +90 262 678 89 02, info@vistekas.com, www.vistekas.com

Producer

V-Optics designs, manufactures and sells sensors and measurement systems enable to characterize light reflective and transparent surfaces. The proposed solutions are based on phase shifting deflectometry technol-

ogy. V-Optics developed a set of sensors and equipment for several applications used in various industries, e.g. Plastics and Composites, Glazing, Paper Mills, Medical Devices.

V-Optics SAS · 2 rue du Travail, 67400 Illkirch Graffenstaden, France,
Tel: +33 3 67 10 28 60, info@v-optics.fr, www.v-optics.fr

Research Facility

Vicomtech (Visual Interaction and Communication Technologies Centre) is an applied research centre specialising in Advanced Interaction, Computer Vision, Data Analytics and Computer Graphics technologies. The centre

aims to respond to the innovation requirements of companies and institutions. To do this, it conducts applied research and develops multimedia visual interaction and communications technologies.

Vicomtech · Paseo Mikeletegi 57, Parque Científico y Tecnológico de Gipuzkoa, 20009 Donostia / San Sebastian, Spain,
Tel: +34 943 309 230, info@vicomtech.org, www.vicomtech.org/en

Producer

Video Systems is a company specialized in computer vision and AI in quality and process control at the service of manufacturing industry. Starting from 1993 we share our experience to allow our customer to grow steadily over time. Today Video Systems is the reliable partner for the interna-

tional market leaders of the main industrial sectors. Video Systems invest an important amount of hours in R&D and currently are releasing Apicus a project that combines robotics, vision and artificial intelligence in a single solution.

Video Systems Srl · Viale G.Mangiarotti 4, 33033 Z.I. Codroipo (UD) Italy,
Tel: +39 0432 913 582, info@videosystems.it, <https://videosystems.it/en/>

Other

The Vision Club of Finland has over 200 members representing machine vision companies, endusers, universities and research organisations.

Vision Club of Finland · Asemapäällikönkatu 12 B, 00520 Helsinki, Finland,
Tel: +358 50 400 6624, office@automaatioseura.fi, www.automaatioseura.fi/in-english/

Distributor, Integrator

ViTec was established in 1995 with headquarters located in Saint-Petersburg. Since that time the company has been working in the field of industrial measurements and automation. Through access to modern technologies and technical equip-

ment teh team of professionals can efficiently solve the most complex technical problems. In order to increase the speed of customer service in Siberia and the Far East a ViTec-Siberia department was opened in 2006 in Tomsk.

ViTec · Fontanka 170, 198035 Saint-Petersburg, Russian Federation,
info@vitec.ru, www.vitec.ru

Producer

VST Europe is a subsidiary of VS Technology, a Japanese developer and manufacturer of sophisticated imaging equipment with a focus on lenses and lighting solutions. The company supports the machine vision market

with advanced optical know-how to meet the customers' various requirements. With the growth of IT and electronics industries, we are seeing high performance yet light and compact machine vision products.

VST Europe B.V · Herikerbergweg 292-342, 1101 CT Amsterdam, Netherlands, Tel: +31 20 305 13 10, <https://vst.co.jp/en>

Manufacturer / Producer

Zebra Technologies Europe Limited · Dukes Meadow, Millboard Road, SL8 5XF Bourne End, United Kingdom, Tel: + 44 800 328 2424, contact.emea@zebra.com, www.zebra.com

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A satellite view of Earth at night, showing the continent of North America illuminated by city lights. The lights are concentrated in the eastern and central parts of the continent, with a few scattered lights in the western part. The oceans are dark, and the atmosphere is visible as a thin blue layer. A large orange circle is overlaid on the top left of the image, containing the text "North America".

North America

Consultant, Distributor, Integrator, Machine Builder/OEM, Research Facility, Solution Provider

3D Infotech, Inc. · 7 Hubble, 92618 Irvine, CA, United States of America, Tel: +1 949 988 02 00, info@3dinfotech.com, www.3dinfotech.com

Solution Provider

A&B Software · 5 Holly Ter, 6320 New London, CT, United States of America, Tel: +1 860 823 83 01, sales@ab-soft.com, www.ab-soft.com

Machine Builder/OEM

Acculogic Inc. · 175 Riviera Drive, L3R 5J6 Markham, ON, Canada, Tel: +1 905 475 59 07, sales@acculogic.com, www.acculogic.com

Machine Builder/OEM

Acculogic Ltd. · 112-20992 Bake Parkway, 92630 Lake Forest, CA, USA, Tel: +1 949 595 40 80, sales@acculogic.com, www.acculogic.com

Producer

Advanced Optics, Inc.
PO Box 117, 53072 Pewaukee, WI, United States of America, Tel: +1 262 548 11 51, sales@advancedoptics.com, www.advancedoptics.com

Machine Builder/OEM

AGR International, Inc.
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Distributor

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Producer

Allison Park Group, Inc.
4055 Alpha Drive, 15101 Allison Park, PA, United States of America, Tel: +1 412 487 82 11, sales@apgvision.com, www.apgvision.com

Machine Builder/OEM

Altair Industries, Inc.
217 Racquette Drive, #5, 80524 Fort Collins, CO, United States of America, Tel: +1 970 217 16 23, altair.industries@comcast.net, www.altairindustriesinc.com

Machine Builder/OEM

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Producer, Solution Provider

Asylum Research
6310 Hollister Ave., 93117 Santa Barbara, CA, United States of America, Tel: +1 805 696 64 66, sales@asylumresearch.com, www.asylumresearch.com

Distributor

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Producer

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Other

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BitFlow, Inc. · 400 W Cummings Park, Suite 5050, 1801 Woburn, MA, United States of America, Tel: +1 781 932 29 00, sales@bitflow.com, www.bitflow.com

Distributor

Bock Optronics Inc. · 14 Steinway Blvd., Suite 7, M9W 6M6 Toronto, ON, Canada, Tel: +1 416 674 28 04, sales@bockoptronics.ca, www.bockoptronics.ca

Producer, Solution Provider

Breault Research Organization
2175 E Valencia Rd #125, 85706 Tucson, AZ, United States of America, Tel: +1 520 721 05 00, marketing@breault.com, www.breault.com

Producer

Capovani Brothers Inc. · 704 Prestige Parkway, 12302 Scotia, NY, United States of America, Tel: +1 518 346 83 47, cbi@capovani.com, www.capovani.com

Integrator

Cepoint Networks, LLC. · 1W Otterson Street, 03060-4500 Nashua, NH, United States of America, Tel: +1 603 883 79 79, sales@cepoint.com, www.cepoint.com

Solution Provider

Cimetrix Inc. · 6979 S. High Tech Drive, Salt Lake City, UT 84047, United States of America, Tel: +1 801 256 65 00, sales@cimetrix.com, www.cimetrix.com

Solution Provider

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Cogniac Corporation · 150 Almaden Blvd, Suite 1200, 95113 San Jose, CA, United States of America, contact@cogniac.co, www.cogniac.co

Producer

Coherent Canada · 275 Kesmark, H9B3J1 Montreal, QC, Canada, Tel: +1 514 685 22 03, lasers@stockeryale.com, www.coherent.com

Research Facility, Solution Provider

Coherix, Inc. · 3980 Ranchero Drive, 48108-2775 Ann Arbor, MI, United States of America, Tel: +1 734 922 40, rons@coherix.com, www.coherix.com

Solution Provider

Complete Inspection Systems, Inc. · 334 Fourth Avenue, 32903 Indialantic, FL, United States of America, Tel: +1 321 952 24 90, gparish@autoproofpro.com, www.completeinspectionssystem.com

Producer

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Producer

Computer Dynamics · 7640 Pelham Road, Greenville, SC 29615, United States of America, Tel: +1 864 627 88 00, cdsales@gefanuc.com, www.codynamics.com

Machine Builder/OEM

Crowley Company, The · 5111 Pegasus Court, Suite M, 21704 Frederick, MD, United States of America, Tel: +1 240 215 02 24, cherib@thecrowleycompany.com, www.thecrowleycompany.com

Producer

CyberOptics Semiconductor, Inc. · 13555 SW Millikan Way, Beaverton, OR 97005, United States of America, Tel: +1 503 495 22 00, csinfo@cyberoptics.com, www.imagenation.com

Integrator

Cyth Systems, Inc. · 9835 Carroll Centre Road, Suite 104, 92126 San Diego, CA, United States of America, Tel: +1 888 508 73 55, info@cyth.com, www.cyth.com

Machine Builder/OEM

Deposition Sciences, Inc. (DSI) · 3300 Coffey Lane, 95403 Santa Rosa, CA, United States of America, Tel: +1 707 573 67 85, solutions@depSci.com, www.depSci.com

Distributor

Digital West Imaging · 450 Mountain View Road, El Cajon, CA 92021, United States of America, Tel: +1 866 593 19 00, sales@digitalwestimaging.com, www.digitalwestimaging.com

Producer

Directed Perception · 890C Cowan Road, Burlingame, CA 94010, United States of America, Tel: +1 650 692 39 00, sales@dperception.com, www.dperception.com

Machine Builder/OEM

Dover Motion · 159 Swanson Road, 1719 Boxborough, MA, United States of America, Tel: +1 800 227 1066, sales@dovermotion.com, dovermotion.com/

Solution Provider

Dunkley International Inc. · 1910 Lake St., MI 49001 Kalamazoo, United States of America, Tel: +1 269 343 55 83, nhatzinikolis@dunkleyintl.com, www.dunkleymachinevision.com

Machine Builder/OEM

E-con Systems · 11027 Sandistan Manor Ct, 63146 St Louis, MO, United States of America, Tel: +1 314 732 11 52, sales@e-consystems.com, www.e-consystems.com

Producer

EDT Engineering Design Team Inc.
3423 NE John Olsen Avenue, 97124 Hillsboro, OR, United States of America, Tel: +1 503 690 12 34, info@edt.com, www.edt.com

Producer

Epix, Inc. · 381 Lexington Drive, Buffalo Grove, IL 60089-6934, United States of America, Tel: +1 847 465 18 18, epix@epixinc.com, www.epixinc.com

Producer

FastVision · 131 D.W. Highway #529, 3060 Nashua, NH, United States of America, Tel: +1 603 891 43 17, sales@fast-vision.com, www.fast-vision.com

Producer

Fiberoptics Technology · 1 Quassett Road, Pomfret, CT 06258, United States of America, Tel: +1 860 928 04 43, sgiamundo@fiberoptix.com, www.fiberoptix.com

Producer

Fifo Optics Co., Ltd. · 2010 Crow Canyon Place, Suite 100, 94583 San Ramon, CA, United States of America, Tel: +1 925 234 48 68, florinashen@fifooptics.com, www.fifooptics.com

Producer

FJW Optical Systems, Inc. · 322 N Woodwork Ln, Palatine, IL 60067-4933, United States of America, Tel: +1 847 358 25 00, irsales@findrscope.com, www.findrscope.com

Producer

Flir Integrated Imaging Solutions Inc., formerly Point Grey Research., is a global leader in the design and manufacture of innovative, high-performance digital cameras for industrial, medical and life science, traffic, biometric, GIS, and people counting applications.

Flir Integrated Imaging Solutions Inc. · 12051 Riverside Way, V6W 1K7 Richmond, BC, Canada, Tel: +1 604 242 99 37, mv-sales@flir.com, www.flir.com/mv

Producer

Flir Systems is a global leader in the design and manufacture of innovative machine vision cameras. Starting with the acquisition of Point Grey in 2016, Flir is developing a machine vision center of excellence with the goal of delivering best-in-class customer experiences and helping our customers be more competitive.

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Machine Builder/OEM, Solution Provider

Fresh Digit · 22671 Brookhaven, 92630 Lake Forest, CA, United States of America, Tel: +1 949 204 02 88, online@freshdigit.com, www.freshdigit.com

Integrator, Solution Provider

FSI Technologies Inc. · 668 Western Ave., 60148 Lombard, IL, United States of America, Tel: +1 630 932 93 80, info@fsinet.com, www.fsinet.com

Producer

Gevicam Inc. · 673 S. Milipitas Blvd, Milpitas, CA 95035, United States of America, Tel: +1 408 262 57 72, info@gevicam.com, www.gevicam.com

Other

HD Barcode LLC · 334 Fourth Ave, 32903 Indialantic, FL, United States of America, Tel: +1 321 862 24 89, gparish@hdbarcode.com, www.hdbarcode.com

Producer

Imaging Solutions Group · 1387 Fairport Road, 14450 Fairport, NY, United States of America, Tel: +1 585 388 52 20, sales@isgcameras.com, www.isgcameras.com

Producer

Imperx · 6421 Congress Avenue, 33487 Boca Raton, FL, United States of America, Tel: +1 561 989 00 06, sales@marketing.com, www.imperx.com

Producer

Intercon 1 · 7746 Goedderz Rd., Ste 110, 56425 Buxter, MN, United States of America, Tel: +1 218 828 31 57, intercon@nortechsys.com, www.intercon-1.com

Producer

IO Industries · 15940 Robin's Hill Road, N5V 0A4 London, ON, Canada, Tel: +1 519 663 95 70, sales2@ioindustries.com, www.ioindustries.com

Machine Builder/OEM, Producer, Solution Provider

ISVI Corp. · 290 Highland Ave 2nd Fl, 6410 Cheshire, CT, United States of America, Tel: +1 951 317 00 19, sales@isvi-corp.com, www.isvi-corp.com

Producer

JAI is a global manufacturer of digital cameras for machine vision, traffic imaging, global security, medical imaging and scientific research. Besides a broad range of leading-edge 1-CMOS progressive area scan and line scan cameras, JAI is a leading provider of multi-imager cameras incorporating advanced prism-block technology, including 3-CMOS RGB area scan cameras, 2-CMOS multi-spectral cameras plus a complete family of 3-CMOS/4-CMOS line scan cameras. JAI's product program includes cameras for visible, UV, NIR and SWIR imaging with GigE Vision, USB3 Vision, CoaxPress, Camera Link and SFP+ interfaces.

JAI Inc. - USA · 6800 Santa Teresa Blvd., Suite 175, 95119 San Jose CA, United States of America, Tel: +1 408 383 0300, camerasales.americas@jai.com, www.jai.com

Producer

Lambda Research Corporation · 25 Porter Road, 01460-1434 Littleton, MA, United States of America, Tel: +1 978 486 07 66, sales@lambdare.com, www.lambdare.com

Distributor

LDD Trading Associates, LLC · 119B Emerson Road, 3055 Milford, NH, United States of America, Tel: +1 603 732 57, sales@lddligh.com, www.lddligh.com

Manufacturer / Producer

Light Labs Inc. · 725 Shasta St., CA 94063 Redwood City, United States of America, sales@light.co, www.light.co

Producer

Lincoln Laser Company · 234 East Mohave, Phoenix, AZ 85004, United States of America, Tel: +1 602 257 04 07, bcmcgrath@lincolnlaser.com, www.lincolnlaser.com

Solution Provider

At LMI Technologies we work to advance quality and productivity with 3D sensor technology. Our award-winning, FactorySmart solutions improve the quality and efficiency of factory production by providing fast, accurate, reliable inspection solutions that leverage smart 3D technologies.

Unlike contact based measurement or 2D vision, our products remove complexity and dramatically reduce implementation cost while achieving repeatable, highly accurate measurement.

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Machine Builder/OEM

Lumetrics, Inc. · 1565 Jefferson Rd, #420, 14623 Rochester, NY, United States of America, Tel: +1 585 214 24 55, sales@lumetrics.com, www.lumetrics.com

Producer

Mad City Labs, Inc. · 2524 Todd Drive, 53713 Madison, WI, United States of America, Tel: +1 608 298 08 55, sales@madcitylabs.com, www.madcitylabs.com

Manufacturer / Producer

Matrox Imaging is the machine vision industry's most trusted supplier of vision software, smart cameras, 3D sensors, vision controllers, I/O cards, and frame grabbers. For more than 40 years, we have developed products

with assured quality and longevity, applying trusted industry standards. Our products are backed by meticulous in-house design expertise and come with dedicated customer support.

Matrox Imaging (Zebra Technologies Cooperation) · 1055 St-Regis Blvd., H9P 2T4 Dorval, Canada, Tel: + 1-800 804 6243, www.matrox.com/en/imaging

Machine Builder/OEM

Mega Speed Corporation · 45 MainSt S, Unit B, R0J 1E0 Minnedosa, Manitoba, Canada, Tel: +1 204 867 37 67, info@megaspeedusa.com, www.megaspeedusa.com

Producer

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Consultant

Michigan Metrology LLC · 17199 N. Laurel Park Drive Ste. #51, 48152-2679 Livonia, MI, United States of America, Tel: +1 734 953 50 30, info@michmet.com, www.michmet.com

Producer

Midwest Optical Systems, Inc. · 322 N. Woodwork Lane, 60067 Palatine, IL, United States of America, Tel: +1 847 359 35 50, info@midopt.com, www.midopt.com

Distributor, Integrator, Solution Provider

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Consultant, Integrator, Machine Builder/OEM, Producer, Research Facility, Solution Provider

Nanovea · 6 Morgan Ste 156, 92618 Irvine, CA, United States of America, Tel: +1 949 461 92 92, info@nanovea.com, nanovea.com/profilometers

Producer, Solution Provider

Navitar · 200 Commerce Drive, 14623 Rochester, NY, United States of America, Tel: +1 585 359 40 00, info@navitar.com, www.navitar.com

Association, Machine Builder/OEM, Solution Provider, Other

Newnex Technology Corporation · 3041 Olcott St., 95054 Santa Clara, CA, United States of America, Tel: +1 408 986 99 88, information@newnex.com, www.newnex.com

Consultant, Integrator, Machine Builder/OEM, Research Facility, Solution Provider, Other

Norman N. Axelrod Associates · 445 East 86th Street, 10028 New York, NY, United States of America, Tel: +1 212 741 63 02, naxelrod@axelrodassociates.com, www.axelrodassociates.com

Producer

Norpix, Inc. · 1751 Richardson St., Suite 6117, H3K1G6 Montreal QC, Canada, Tel: +1 514 846 0009 ex:22, ln@norpix.com, www.norpix.com

Producer

Novacam Technologies Inc.
277 Lakeshore Road, Suite 04, H9S 4L2 Pointe Claire, QC, Canada, Tel: +1 866 694 40 02, info@novacam.com, www.novacam.com

Cameras, Image Sensors

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Onsemi · 5005 East McDowell Road, Phoenix, AZ 85008, United States of America, Tel: +1 602 244 6600, www.onsemi.com

Solution Provider

Optel Vision
2680, boul. du Parc Technologique, G1P 4S6 Quebec City, QC, Canada, Tel: +1 418 688 334, info@optelvision.com, www.optelvision.com

Producer

Optical Research Associates - Wholly Owned Subsidiary of Synopsys, Inc.
199 South Los Robles Avenue, Suite 400, 91101 Pasadena, CA, United States of America, Tel: +1 626 795 91 01, optics@synopsys.com, www.opticalres.com

Integrator

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Distributor

PCE Instruments / PCE Americas Inc.
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Distributor

Phase 1 Technology
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Solution Provider

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Producer

Pixelink · 1900 City Park Drive, Suite 410, K1J 1A3 Ottawa, ON, Canada, Tel: +1 613 247 12 11, sales@pixelink.com, www.pixelink.com

Machine Builder/OEM

Pleora's video interface expertise brings the advantages of GigE Vision and USB3 Vision to imaging applications requiring high-bandwidth, low latency video. Manufacturers rely on our products, standards expertise, and systems knowledge to bypass development and integration complexities in mission-critical imaging applications. Our interfaces revolutionized the factory automation market, and today we're bringing new levels of intelligence to medical and military applications.

Pleora Technologies · 340 Terry Fox Dr, Suite 300, K2K 3A2 Kanata, ON, Canada, Tel: +1 613 270 06 25, info@pleora.com, www.pleora.com

Producer

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Producer

PPT Vision · 6301 Old Shakopee Road, 55438 Bloomington, MN, United States of America, Tel: +1 952 996 95 00, sales@pptvision.com, pptvision.com

Solution Provider

Pressco Technology Inc. · 29200 Aurora Road, 44139 Cleveland, OH, United States of America, Tel: +1 440 498 26 00, sales@pressco.com, www.pressco.com

Producer

Teledyne Dalsa Rad-icon Imaging · 765 Sycamore Drive, 95035 Milpitas, CA, United States of America, Tel: +1 408 736 60 00, sales.rad-icon@teledynedalsa.com, www.rad-icon.com

Distributor

Rice Camera Technologies
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Solution Provider

Rockwell Automation, Inc. · 1201 South Second Street, 53204-2496 Milwaukee, WI, United States of America, Tel: +1 414 382 20 00, webmaster@rockwellautomation.com, www.rockwellautomation.com

Producer

SensorDesk, Inc. · 30 Merion Pl., 8648 Lawrenceville, NJ, United States of America, Tel: +1 609 642 13 77, voigt@sensordesk.com, www.sensordesk.com

Machine Builder/OEM

Sensors Unlimited, Inc. · 3490 Route 1 Building 12, 08540-5914 Princeton, NJ, United States of America, Tel: +1 609 520 06 10, karen.jeffers@goodrich.com, www.sensorsinc.com

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Producer

Servo-Robot Inc. · 1370 Hocquart, J3V 6E1 St-Bruno, QC, Canada, Tel: +1 450 653 78 68, sales@servorobot.com, www.servorobot.com

Machine Builder/OEM

Smart Vision Lights is a leading designer and manufacturer of high-brightness LED lights for industrial applications, including machine vision. All products come with universal internal current-control drivers, offering constant or strobed operation, reduced wiring requirements, and easy installation.

Smart Vision Lights products are the safest on the market thanks to the company's in-house IEC 62741 light-testing laboratory, guaranteeing conformity and compliance.

Smart Vision Lights · 2359 Holton Road, 49445 Muskegon, MI, United States of America, Tel: +1 231 722 11 99, info@smartvisionlights.com, www.smartvisionlights.com

Producer

Spectrum Illumination · 5114 Industrial Park Rd., 49437 Montague MI, United States of America, Tel: +1 231 894 4590, sales@spectrumillumination.com, www.spectrumillumination.com

Solution Provider

SPG Data 3D Corporation · 2151 Leonard de Vinci, J3E 1Z3 Ste-Julie, QC, Canada, Tel: +1 450 922 35 15, sales@spgdata3d.com, www.spgdata3d.com

Producer

Sunex, Inc. · 3160 Lionshead Ave, Suite B, 92010 Carlsbad, CA, United States of America, Tel: +1 760 597 2966, sales@sunex.com, www.sunex.com

Producer

Sydor Optics · 31 Jet View Drive, 14624 Rochester, NY, United States of America, Tel: +1 585 271 73 00, mikev@sydor.com, www.sydor.com

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Syntec Optics · 515 Lee Road, 14606 Rochester, NX, United States of America, Tel: +1 585 768 25 13, info@syntecoptics.com, syntecoptics.com/

Consultant, Distributor, Integrator

Systematic Vision · PO Box 490, 1721 Ashland, MA, United States of America, Tel: +1 508 532 11 16, info@systematicvision.com, www.systematicvision.com

Producer

Teledyne Dalsa is part of the Teledyne Imaging group of leading-edge companies aligned under the Teledyne umbrella. With unrivalled expertise across the spectrum and decades of experience, the collective offers world-leading capabilities in sensing, signal generation and processing, enabling customers to succeed across a wide range of applications and industries. Offering world-wide customer support and the technical expertise to handle the toughest tasks, Teledyne Imaging tools, technologies, and vision solutions are built to deliver to their customers a unique and competitive advantage.

Teledyne Dalsa · 605 McMurray Road, N2V-2E9 Waterloo, ON, Canada, Tel: +1 519 886 60 00, sales.americas@teledynedalsa.com, www.teledynedalsa.com/mv

Producer

Teledyne Lumenera, part of the Teledyne Imaging Group, provides an extensive range of high-quality digital cameras with unique combinations of speed, resolution, and sensitivity to satisfy the demands of today's imaging applications. Teledyne Lumenera also offers custom design services to OEM partners requiring specialized hardware and software features. Our core competencies include digital bus technologies such as USB 3.0, USB 2.0, Ethernet, HDMI and Gigabit Ethernet (GigE) as well as a complete command of digital imaging hardware and software built around CMOS and CCD based imagers.

Teledyne Lumenera Corporation · 7 Capella Court, K2E 8A7 Ottawa, ON, Canada, Tel: +1 613 736 40 77, lumenera.info@teledyne.com, www.teledynelumenera.com

Producer

Tekstar Optical Inc. · 270 Kohr Rd., 11754-1237 Kings Park, NY, United States of America, Tel: +1 631 663 35 58, info@tekstaroptical.com, www.tekstaroptical.com

Machine Builder/OEM

Toshiba Imaging Systems Division · 9740 Irvine Blvd., 92618-1697 Irvine, CA, United States of America, Tel: +1 877 595 44 25, vincent.giovinco@tais.toshiba.com, www.cameras.toshiba.com

Solution Provider

TYZX, Inc. · 3715 Haven Avenue, Suite 110, 94025 Menlo Park, CA, United States of America, Tel: +1 650.906.84 34, info@tyzx.com, www.tyzx.com

Distributor

USBFireWire · 1815 E Douglas, 67211 Wichita, KS, United States of America, Tel: +1 877 522 37 79, sales@usbfirewire.com, www.USBFireWire.com

Manufacturer / Producer

Venturi Astrolab, Inc. · 12536 Chadron Ave., 90250 Hawthorne, United States of America, www.venturiastrolab.com/

Integrator, Solution Provider

Vision Machines Inc. · PO Box 447, 1730 Bedford, MA, United States of America, Tel: +1 781 275 20 20, info@vision-machines.com, www.vision-machines.com

Producer

Vision Research / Ametek Materials Analysis Division 100 Dey Rd., 7470 Wayne, NJ, United States of America, Tel: +1 973 696 45 00, phantomn@visionresearch.com, www.visionresearch.com

Consultant

Vizzion, Inc. · 321 Sasamat Lane, V7G 2S4 North Vancouver, BC, Canada, Tel: +1 604 985 9399, info@vizzion.com, www.vizzion.com/development

Machine Builder/OEM

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System Solution Provider

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Founded in 1991, Daheng Imaging is the most famous high-tech enterprise focusing on developing and manufacturing machine vision components, machine vision system and internet medical products in China. As core as-

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China Daheng Group Inc. Beijing Image Vision Technology Branch
No.3 Suzhou Str., Haidian District 12F Daheng Science&Technology Tower, 100080 Beijing, China, Tel: +86 10 828 288 788 081, www.daheng-image.com/

Manufacturer / Producer

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Distributor, Solution Provider

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Producer, Solution Provider

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Producer

Goyo Optical Inc. · 3-8-31 Hamazaki, 351-0033 Asaka-Saitama, Japan, Tel: +81 48 474 22 35, info@goyooptical.com, www.goyooptical.com

Solution Provider

Guangzhou Eusens Technology Co.,Ltd · Panyu Luoxi, 510075 Guangzhou, ACT, China, Tel: +1 3760 812 861, sales@panasonicservomotor.com, panasonicservomotor.com/e5cn/

Producer

Hangzhou Hikvision Digital Technology Co.
No.555 Qianmo Road, Binjiang District, 310051 Hangzhou, China, Tel: +86 571 88075998, overseasbusiness@hikvision.com, www.hikvision.com

Producer



Hangzhou Hikrobot Technology Co., Ltd. (Hikrobot) is a global manufacturer and supplier of mobile robot and machine vision products.

With efforts in industrial vision sensing application and hardware technology, the company provides customers with leading machine vision products. The products cover industrial camera, lens, vision box, industrial smart camera and related accessory.

Through rigorous EMC, safety and reliability tests, Hikrobot guarantees the high precision, high efficiency and high environmental performance of each product. The machine vision products are widely used in industrial automation sectors such as consumer electronics, semiconductors and logistics, as a part of the

vision applications like positioning guidance, measurement, quality inspection, code reading, OCR, etc. They help users to greatly improve productivity, accuracy and stability.



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Binjiang District
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www.hikrobotics.com/en

Producer

Hirakawa Hewtech, which established in September 1948 in Tokyo, is specializing in manufacturing and sales of electric wires for the electrical and electronic industries and consistently pursue leading-edge technologies that

fill the needs of the times. In the FA field, Hirakawa Hewtech has developed a wide range of cables including Camera Link, USB3Vision, GigE Vision, CoaXPress and IEEE 1394b cable.

Hirakawa Hewtech Corp. · 7F, Sotetsu Tamachi Bldg., 4-17-5 Shiba, Minato-ku, 108-0014 Tokyo, Japan, eigyo@hewtech.co.jp, www.hewtech.co.jp/en

Manufacturer / Producer

The Huaray Tech is machine vision subsidiary of Dahua Technology CO., LTD. Dahua Technology is a leading advanced video surveillance solution provider with a complete product

portfolio including an advanced series of front to back end devices, display, software, smart home solutions, access controls and alarms as well as intelligent traffic systems.

Huaray Technology Co., Ltd. NO.1199 BinAn Road, Hangzhou, P.R.China, Tel: +86-0571-87235766, mvsales@irayple.com, www.irayple.com/en

Manufacturer / Producer

Imelligent Technology (Shanghai) Co. Ltd. · 306-7, 3rd floor, no.1-72, Lane 2855, Huqingping Road, Shanghai, China, www.imelligent.com

Producer

Inspekto Autonomous Machine Vision systems are designed to put the Machine Vision market on a one-way course, replacing existing expert-centric solutions by ready-to-go out-of-the-box QA systems put at the

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Inspekto AMV Ltd. · 24 Raoul Wallenberg Street, 69719 Tel Aviv, Israel, info@inspekto.com, https://inspekto.com/

Producer

JAI is a global manufacturer of digital cameras for machine vision, traffic imaging, global security, medical imaging and scientific research. Besides a broad range of leading-edge 1-CMOS progressive area scan and line scan cameras, JAI is a leading provider of multi-imager cameras incorporating advanced prism-

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JAI Ltd. - Japan · 10-35 Sakae-chou Kanagawa-ku, 221-0052 Yokohama, Kanagawa, Japan, Tel: +81 45 440 0154, camerasales.apac@jai.com, www.jai.com

Association

Japan Industrial Imaging Association

2-10-15, Nakameguro, Yamate Ave. K Bldg., 153-0061 Meguro, Tokyo, Japan, Tel: +81 3 371 639 33, info@jiaa.org, www.jiaa.org

Producer

Kamiera · 6A Massada St., 45294 Hod Hasharon, Israel, Tel: +972 9 760 34 25, info@kamiera.com, www.kamiera.com

Producer

Kaya Instruments · 20 HaMesila St., 3688520 Neshar, Israel, Tel: +972 72 272 35 00, george@kayainstruments.com, www.kayainstruments.com

Machine Builder/OEM, Solution Provider

KOS Laboratory Homogenizer · A18 Second Floor, Building 1, Shunlian Machinery Plaza, ChenCun Town, 528313 Foshan, Guangdong, China, Tel: +86 757 293 185 41, drbluejack@yahoo.com, www.emulsifyingmixer.com/homogenizer/lab-homogenizer.html

Distributor, Machine Builder/OEM, Producer, Solution Provider

Lanoptik Technologies Ltd.
R1002, No.140 Zhongshan Avenue, 510630 Guangzhou, China, Tel: +86 20 389 860 17, info@lanoptik.com, www.lanoptik.com

Machine Builder/OEM

Leading-Tech Laser Co., Ltd.

5th floor, building 52, No.5688, LongWu Road, 200241 Shanghai, China, Tel: +86 21 335 881 22, sale@leading-techlaser.com, www.leading-techlaser.com

Producer

Mega Phase Industrial Inspection Technology (Shanghai) Co., Ltd. (Mega Phase Technology), as the leading industrial structured light 3D camera manufacturer and a member of Shanghai Software Industry Association, is located in Shanghai Zhangjiang

Science City. Since the establishment, the company has achieved great technical development and obtained a number of patent certificates, including invention patents, utility model patents and software copyrights.

Mega Phase Industrial Inspection Technology(Shanghai) Co., Ltd.

#88 Chenul Road, Building 1, Room 303, Pudong New District, 201203 Shanghai, China, Tel: +86 21 63631362, marketing@mega-phase.cn, www.mega-phase.cn/3dvision

Producer

Nacacue Corporation was established in August 1980. The company specializes in developing new technology. Specifically in fields closely link to trends in society. It manufactures optical equipment, LED lighting solutions

and electronic control systems for industrial machine vision. The company goal is to contribute to the societies in which our customers are located through developing new technology to cultivate new markets.

Nacacue Corporation

194-1, Higashitsuchikawa-cho, Kuze, Minami-ku, 601-8204 Kyoto, Japan, Tel: +81 75 934 41 78, info@nacacue.co.jp, www.nacacue.com

Producer

NED (Nippon Electro-Sensory Devices Ltd.)

Shinagawa-ku, Ohi 1-45-2 Gibraltar Ohi Bldg, 4f, 140-0014 Tokyo, Japan, Tel: +81 3 571 831 81, info@ned-sensor.com, www.ned-sensor.co.jp/en

Manufacturer / Producer

Neosys Technology is a manufacturer of rugged embedded systems, GPU computers and modules. With all products designed, assembled and built in Taiwan, Neosys aims to accelerate the application developments for industrial automation, machine

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Neosys Technology Inc. · 15F., No. 868-3, Zhongzheng Rd., Zhonghe District, 235 New Taipei City, Taiwan, Tel: +886 2 222 361 82, sales@neosys-tech.com, www.neosys-tech.com

Integrator

Nexus Engiconsults · A 115 2nd floor Shakarpur, 110092 New Delhi, India, Tel: +91 98 107 698 31, info@nexusengiconsults.com, www.nexusengiconsults.com

Producer

OPT Machine Vision Tech Co., LTD

NO8. Jinsheng Road, 523853 Jinxia Chang'an Dongguan, Guangdong, China, Tel: +86 769 827 161 88, optmv1@optmv.com, www.optmv.net

Distributor, Machine Builder/OEM, Solution Provider

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Producer

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Machine Builder/OEM

RAA Vision Pvt Ltd. · Om vihar, 110058 New Delhi, Delhi, India, Tel: +91 99 116 902 40, amit@raavision.com, www.raavision.com

Machine Builder/OEM

Runma Cartesian Robot Arm Co., Ltd. · Yuning Industrial Zone, Hengli Town, 523461 Dongguan, Fujian, China, Tel: +86 769 821 819 87, runmarobot@jeawin.com, www.runmarobot.com

System Solution Provider

Saccade Vision · 2 Oppenheimer st. 6th Floor, Scientific Park, Rehovot, 7670102, Israel, Tel: +972 50 2088966, info@saccadevision.com, www.saccadevision.com

Manufacturer / Producer

Shenzhen Dongzheng Optical Co. Ltd (DZO in short) is a manufacturer of industrial lenses as well as optical and mechanical components for machine vision applications. Our product line ranges from line scan lens, area scan lens and tele-centric lens, for both vis-

ible and infrared application and mainly applicable for camera image sensor larger than 1.1". DZO lenses are widely applied in automated industries, mainly in optical inspection and measurement, e.g., Semi-conductor, New Energy, Consumer Electronics.

Shenzhen Dongzheng Optical Co. LTD · 6F, Building One, Xinwuxia Industrial Park, No.32, Cuihao Road, Baolong Street, Longgang District, 518000 Shenzhen, China, Tel: +86 755 2907 9702, sales01@dzoptics.com; www.dzoptics.com

Producer

Shenzhen Kuangshi Communication Technology · 6/F, No.1 Building, Zhongyuntai Industry Park, Tangtou Shiyan, 51818 Shenzhen, China, Tel: +86 755 297 818 35, zteyhb@gmail.com, www.ksfiberoptic.com

Manufacturer / Producer

SinfraRed Pte Ltd. A Xenics company · Blk 28 Sin Ming Lane, #06-143 Midview City, Singapore, 573972, Singapore, Tel: +65 647 666 48, sales@sinfraRed.com, www.sinfraRed.com

Solution Provider

TMS Lite Sdn Bhd · 2A-2, Tingkat Kenari 5, Desa Ria, Sungai Ara, 11900 Bayan Lepas, Penang, Malaysia, Tel: +604 646 84 28, sales@tms-lite.com, www.tms-lite.com

Producer

Toshiba Teli Corporation provides CCD and CMOS cameras for various application in a global market such as machine vision, industrial automation, as well as ITS and medical imaging. Toshiba Teli Corporation has a variety of camera lineup with a multiple selection of digital interfaces, GigE

Vision, USB3 Vision, Cameralink and Firewire with using high quality sensors to meet customer's demands. Our products are subject to total in-house manufacturing from the procurement and supply of components to assembly, wiring and inspection.

Toshiba Teli Corporation · 4-7-1 Asahigaoka, 1910065 Hino, Tokyo, Japan, Tel: +81 425 898 771, teli_glb@toshiba-teli.co.jp, www.toshiba-teli.co.jp

Manufacturer / Producer

TriEye Ltd. · Yigal Alon 94, 6789139 Tel Aviv, Israel, Info@trিয়েye.tech, https://trিয়েye.tech/

Integrator

View-Factor · Av Circunvalacion, Cochabamba, Bolivia, Tel: +591 4 445 45 95, agalindo@view-factor.com, www.view-factor.com

Producer

Vieworks' industrial cameras create values beyond what is visible.

Vieworks develops industrial cameras based on the industry's top optical design technology. The industrial camera plays the role of an "eye" in the machine vision, which is one of the

core areas of industrial automation. For quality control and stabilization of the inspection objects, the company focuses on the development of camera technologies for taking higher resolution at a faster speed.

Vieworks Co., Ltd. · 41-3, Burim-ro 170beon-gil, Dongan-gu, Anyang-si, Gyeonggi-do, 14055 Republic of Korea, Tel: +82 70 7011 6161, vision@vieworks.com, vision.vieworks.com

Manufacturer / Producer

Voyage81 · Yigal Alon 94, Tel Aviv, Israel, https://voyage81.com

Manufacturer / Producer

Weihai Hualing Opto-Electronics (WHEC) is a Sino-Japanese joint venture with 26-year experience of developing and manufacturing contact image sensors (CIS). Compared with traditional line scan cameras, CIS works at a close working distance while maintain-

ing clear, sharp image definition over its entire length, is used for vision inspection applications such as web, label, battery film, etc. Besides, WHEC offers flexible customization service to enable CIS technology to fit a wide range of devices and applications.

Weihai Hualing Opto-Electronics Co., Ltd · 179 Keij Road Hi-Tech IDZ, 264209 Weihai Shandong, China, Tel: +86 631 569 81 28, shikexing@whhec8.cn, www.w-hec.com/en

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Fluke	www.fluke.de
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High Speed Vision	www.hsvision.de
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Horn Imaging	www.horn-imaging.de
Ico Data	www.icodata.de
IDS	www.ids-imaging.com
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Image S	www.imagessrl.com
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Imi tech	www.imi-tech.com
Imperx	www.imperx.com
IMS Chips	www.ims-chips.de

Industrial Vision Systems	www.industrialvision.co.uk
Infaimon	www.infaimon.com
InfraTec	www.infratec.de
Innomiles International	www.innomiles.com
Insensiv	www.insensiv.de
IOS	www.ios-web.de
Ircam	www.ircam.de
IS Imaging Solutions	www.imaging-solutions.de
ISVI	www.isvi-corp.com
JAI	www.jai.com
Japan F.A. Systems	www.jfas.co.jp
JenCam	www.jencam.de
Jenoptik	www.jenoptik.de
Kamera Werke Dresden	www.kwdo.de
Kappa opto-electronics	www.kappa.de
Karlheinz Hinze Opto-engineering	www.hinze-opto.de
KeeKoon Electronics	www.keekoon.com
Klughammer	www.klughammer.de
Kvant	www.kvant.sk
Lambda Photometrics	www.lambdaphoto.co.uk
Lambert Instruments	www.lambert-instruments.com
Leitner Industrial Endoscopy	www.leitner-efer.de
Leutron Vision	www.leutron.com
Leuze Electronic	www.leuze.com
LMI Technologies	www.lmi3d.com
Lord Ingenierie	www.lord-ing.com
LOT Quantum Design	http://lot-qd.de
Lucid Vision Labs	www.thinklucid.com
Lumasense Technology	www.lumasenseinc.com
Luster LightVision Tech	www.lusterinc.com
MAK Bildtechnik	www.mak-bildtechnik.de
Matrix Vision	www.matrix-vision.de
MaxxVision	www.maxxvision.com
Menzel Vision and Robotics	www.menzelab.com
Mega Phase Industrial Inspection Technology	www.mega-phase.cn
Mesa Imaging	www.mesa-imaging.ch
MG Optical Solutions	www.mgopticalsolutions.com
Micro-Epsilon	www.micro-epsilon.com
Microsystems	www.microsystems.it
Mikromak Service	www.mikromak.com

Mikrotron	www.mikrotron.de
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MsiVision	www.msivision.com
NAC	www.nacinc.de
Narragansett Imaging	www.nimaging.com
National Instruments	www.ni.com
NED	www.ned-sensor.co.jp
NET	www.net-gmbh.com
NeuPro Solutions	www.neupro-solutions.com
New Imaging Technologies	www.new-imaging-technologies.com
Notavis	www.notavis.com
NTI	www.nti-measure.com
Odem Technologies	www.odem.co.il
Olympus	www.olympus-europa.com
Omron Microscan Systems	www.microscan.com
Omron	www.industrial.omron.de
ON Semiconductor	www.onsemi.com
Opto Fidelity	www.optofidelity.com
Opto Sonderbedarf	www.opto.de
Oprima	www.opprima.com
Optris	www.optris.de
Optronix	www.optronix.com
Orbis	www.orbis.eu
Panasonic Electric Works	www.panasonic-electric-works.de
Parameter	www.parameter.se
PCO	www.pco.de
Pentacon	www.pentacon.de
PerkinElmer Optoelectronics	www.perkinelmer.com
Phaer	www.phaer.be
Philips	www.apptech.philips.com/vision
Photonfocus	www.photonfocus.com
Photron	www.photron.com
Phytec Messtechnik	www.phytec.de
Pi4_robotics	www.pi4.de
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Pixelink	www.pixelink.com
PMDTec	www.pmdtec.com
Polytec	www.polytec.de/bv
Precitec	www.precitec.ch
Premier Electronics	www.premierelect.co.uk

Princeton Instruments	www.princetoninstruments.com
Prophesee	www.prophesee.ai
Proxitronic	www.proxitronic.com
Qualimatest	www.qmt.ch
Quest Innovations	www.quest-innovations.com
Rad-Icon Imaging	www.rad-icon.com
Rauscher	www.rauscher.de
Redlake	www.redlake.com
RH Engineering	www.rhengineering.de
Ricoh International B.V. - German Branch	www.ricoh-iosd.eu
Roper Scientific	www.roperscientific.de
Rubroeder	www.rubroeder.de
Salvador Imaging	www.salvadorimaging.com
Schael-Optik	www.schael-optik.de
Schäfter + Kirchhoff	www.sukhamburg.de
Schmachtl	www.schmachtl.at
SDT - Dr. Seitner	www.sdt-seitner.com
Second2None	www.visiondragon.com
Secube	www.secube.co.kr
Sedeco Vision Components	www.sedeco.nl
Seiwa Optical	www.seiwaopt.co.jp
Sensors Unlimited	www.sensorsinc.com
Sentech	www.sentech.co.jp
Sglux	www.sglux.com
Sharp Microelectronics	www.sharpsme.com
SKS Vision Systems	www.visionsystems.fi
Slomotec	www.slomotec.de
Smartek	www.smartek.hr
Smartray	www.smartray.de
Soliton Technologies	www.solitontech.com
Sony	www.pro.sony.eu/vision
Stemmer Imaging	www.stemmer-imaging.com
STZ Qualitätssicherung und Bildverarbeitung	www.stz-ilmenau.de
Sugitoh	www.sugitoh.jp
SVS Vistek	www.svs-vistek.com
Symco	www.symco.co.jp
Systematic Vision	www.systematicvision.com
Tattile	www.tattile.com
Tekno Optik	www.teknooptik.se
Tekstar Optical	www.tekstaroptical.com

Teledyne Dalsa	www.teledynedalsa.com
Teledyne e2v	www.teledyne-e2v.com
Teledyne Lumenera	www.teledynelumenera.com
The Imaging Source	www.theimagingnsources.com
Thermosensorik	www.thermosensorik.de
Tichawa Vision	www.tichawa.de
Toshiba Teli	www.toshiba-teli.co.jp
Toshiba	www.toshiba.ch
TriDiCam	www.tridicam.de
TVI Vision	www.tvivision.com
Unibrain	www.unibrain.com
VDS Vosskühler	www.vdsvossk.de
Vega Technology Group	www.vegatcgroup.com
Vialux	www.vialux.de
Vicon Motion Systems	www.vicon.com
Videology Imaging Solutions	www.videologyinc.com
Videor Technical	www.videor.com
Vidisys	www.vidisys.de
Vieworks	www.vieworks.com
Visicontrol	www.visicontrol.com
Visiolaser	www.vannier-photelec.fr/visiolaser
Vision & Control	www.vision-control.com
Vision Components	www.vision-components.com
Vision Research	www.visionresearch.com
Vision Tools	www.vision-tools.com
Visiosens	www.visiosens.de
Vistas	www.vistas-gmbh.de
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Vizaar	www.vizaar.de
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VRmagic	www.vrmagic.com
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Duwe 3D	www.duwe-3d.de
EMVA European Machine Vision Association	www.emva.org
Entner Electronics	www.entner-electronics.com
Envision	www.envision.co.kr
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Farbmessung Schröder	www.farbmessung.com
FiberVision	www.fibervision.de
Framos	www.framos.eu
Fraunhofer Allianz Vision	www.vision.fraunhofer.de
G4 Technology	www.g4.com.tw
Gesellschaft für Bild- und Signalverarbeitung (GBS)	www.gbs-ilmenau.de
GFal	www.gfai.de
IDS	www.ids-imaging.com
Imaging Lab	www.imaginglab.it
Impuls	www.impuls-imaging.com
INB Vision	www.inb-vision.com
Infaimon	www.infaimon.com
InRay Solutions	www.inrays.com
Inspect	www.WileyIndustryNews.com
Irida Labs	www.irdalabs.gr
IS Imaging Solutions	www.imaging-solutions.de
IVAN	www.feda.nl
Dr.-Ing. Jänchen Business Development	www.jaenchen-bd.com

JIIA Japan Industrial Imaging Association	www.jiia.org
Joanneum Research	www.joanneum.at
Kappa opto-electronics	www.kappa.de
Landesmesse Stuttgart	www.vision-fair.de
Lincoln Laser Company	www.lincolnlaser.com
Messe München	www.messe-muenchen.de
Michigan Metrology	www.michmet.com
MsiVision	www.msivision.com
Neurocheck	www.neurocheck.com
Norman N. Axelrod Associates	www.axelrodassociates.com
NTI	www.nti-measure.com
Omron	www.industrial.omron.de
Optical Research Associates	www.opticalres.com
Opto	www.opto.de
Opto Fidelity	www.optofidelity.com
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Supercomputing Systems	www.scs-vision.ch
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Systematic Vision	www.systematicvision.com
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Univision	www.univision.it
Van de Loosdrecht Machine Vision	www.vdlmv.nl
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China Daheng Group	www.daheng-image.com
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Cosyco	www.cosyco.de
Cyberoptics Semiconductor	www.imagenation.com
EDT	www.edt.com
EHD imaging	www.ehd.de
Ellips	www.ellips.nl
Eltec Elektronik	www.eltec.com
Epix	www.epixinc.com
Euresys	www.euresys.com
Fabrimex Systems	www.fabrimex-systems.ch
Fast	www.fast-corp.co.jp
Framos	www.framos.eu
G4 Technology	www.g4.com.tw
Gidel	www.gidel.com
HaSoTec	www.hasotec.com
IDS	www.ids-imaging.com
Image House	www.imagehouse.dk
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IS Imaging Solutions	www.imaging-solutions.de
Isra Vision	www.isravision.com
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Matrox Imaging	www.matrox.com/imaging
MaxxVision	www.maxxvision.com
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MsiVision	www.msivision.com
National Instruments	www.ni.com
Odem Technologies	www.odem.co.il
Omron Microscan Systems	www.microscan.com
Orbis	www.orbis.eu
Parameter	www.parameter.se
Phaer	www.phaer.be
Phytec Messtechnik	www.phytec.de
Pi4_robotics	www.pi4.de
Polytec	www.polytec.de/bv
Premier Electronics	www.premierelect.co.uk
Qualimatest	www.qmt.ch
Rauscher	www.rauscher.de

Schael-Optik	www.schael-optik.de
Schäfer+Kirchhoff	www.sukhamburg.de
Schmachtl	www.schmachtl.at
Second2None	www.visiondragon.com
Sensor to Image	www.sensor-to-image.de
Silicon Software	www.silicon-software.de
Stemmer Imaging	www.stemmer-imaging.com
STZ Qualitätssicherung und Bildverarbeitung	www.stz-ilmeneau.de
Sundance Multiprocessor Technology	www.sundance.com
SVS Vistek	www.svs-vistek.com

Symco	www.symco.co.jp
Systematic Vision	www.systematicvision.com
Teledyne Dalsa	www.teledynedalsa.com
The Imaging Source	www.theimagingnsources.com
Videology Imaging Solutions	www.videologyinc.com
Vidisys	www.vidisys.de
Vision Tools	www.vision-tools.com
Visionlink	www.visionlink.it
Vistek	www.vistekas.com
Weiss Imaging and Solutions	www.weiss-imaging.de

ILLUMINATION & Lighting Systems

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Acal Bfi Germany	www.bfiophtilas.com
Advanced Illumination	www.advancedillumination.com
Allison Park Group	www.apgvision.com
Alrad Imaging	www.alrad.co.uk
AutoVimation	www.autovimation.com
B&R Industrie-Elektronik	www.br-automation.com
Balluff	www.balluff.com
Baumer	www.baumer.com
Bock Optronics	www.bockoptronics.ca
Büchner Lichtsysteme	www.buechner-lichtsysteme.de
Cavitar	www.cavitar.com
CCS Europe	www.ccs-grp.com
Ceres Vision	www.ceresvision.de
Chromasens	www.chromasens.de
Cognex	www.cognex.com
Coherent	www.coherent.com
Collischon Optik-Design	www.mikro-optik.de
DCM Sistemas	www.dcmsistemas.com
Dedo Weigert	www.dedoweigertfilm.de

Digital West Imaging	www.highspeedvideos.com
Edmund Optics	www.edmundoptics.de
Effilux	www.effilux.fr
Erhard + Leimer	www.erhardt-leimer.com
Fabrimex Systems	www.fabrimex-systems.ch
Falcon Illumination MV	www.falcon-illumination.de
Faseroptik Henning	www.faseroptik-henning.de
Fiberoptics Technology	www.fiberoptix.com
FiberVision	www.fibervision.de
Finger	www.finger-kg.de
Framos	www.framos.eu
Frankfurt Laser Company	www.frlaserco.com
FSI Technologies	www.fsinet.com
G4 Technology	www.g4.com.tw
Gardasoft Vision	www.gardasoft.com
GPP Chemnitz	www.gppc.de
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Helmut Hund	www.hund.de
Hema	www.hema.de
Herbert Waldmann	www.waldmann.com

IB/E Optics	www.ibe-optics.com
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ILEE	www.ilee.ch
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OptoPolymer	www.optopolymer.de
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PerkinElmer Optoelectronics	www.perkinelmer.com
Phaer	www.phaer.be
Phlox	www.phlox-gc.com
Phytec Messtechnik	www.phytec.de
Pi4_robotics	www.pi4.de
Planistar Lichttechnik	www.planistar.de
POG Präzisionsoptik Gera	www.pog.eu
Polytec	www.polytec.de/bv
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Profactor	www.profactor.at
Qualimatest	www.qmt.ch
Quioptiq	www.quioptiq.de
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RH Engineering	www.rhengineering.de
Rheintacho Messtechnik	www.rheintacho.com
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Second2None	www.visiondragon.com
Sedeco Vision Components	www.sedeco.nl
Seiwa Optical	www.seiwaopt.co.jp
Sharp Microelectronics	www.sharpsme.com
Sill Optics	www.silloptics.de
Smart Vision Lights	www.smartvisionlights.com
Smartek Vision	www.smartekvision.com
Soliton Technologies	www.solitontech.com
Special Application Products	www.sapltd.co.uk

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StockerYale	www.stockeryale.com
STZ Qualitätssicherung und Bildverarbeitung	www.stz-ilmenau.de
SVS Vistek	www.svs-vistek.com
Symco	www.symco.co.jp
Tecin	www.tecin.de
Tekno Optik	www.teknooptik.se
Tema	www.temavisio.com
The Imaging Source	www.theimagingnsources.com
Univision	www.univision.it
V Cubed	www.vcubed.co.uk
Vialux	www.vialux.de
Visicontrol	www.visicontrol.com

Visiolaser	www.vannier-photelec.fr/visiolaser
Vision & Control	www.vision-control.com
Vision Light Tech	www.visionlighttech.com
Vision Tools	www.vision-tools.com
Visionlink	www.visionlink.it
Visitool	www.visitool.de
Vistas	www.vistas-gmbh.de
Volpi	www.volpi.ch
VS Technology	www.vst.co.jp
Weiss Imaging and Solutions	www.weiss-imaging.de
Wenglor Sensoric	www.wenglor.com
Zertrox	www.zertrox.de

Microscopes, Endoscopes & Equipment

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AMS Technologies	www.amstechnologies.com
Andor Technology	www.andor.com
Asylum Research	www.asylumresearch.com
Bock Optronics	www.bockoptronics.ca
Breitmeier Messtechnik	www.breitmeier.de
Carl Zeiss Microimaging	www.zeiss.de/microscopy
Deben UK	www.deben.co.uk
Dr. Heinrich Schneider Messtechnik	www.dr-schneider.de
Edmund Optics	www.edmundoptics.de
EHD Imaging	www.ehd.de
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Fort SA	www.fort-fr.com
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G4 Technology	www.g4.com.tw
Heliotis	www.heliotis.ch
Helmut Hund	www.hund.de
Hipp Endoskop Service	www.hipp-endoskopservice.com

Horn Imaging	www.horn-imaging.de
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Infinity Photo-Optical	www.infinity-usa.com
Karl Storz	www.karlstorz.com
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Keyence	www.keyence.de
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Micos	www.micos.ws
Micro-Epsilon	www.eltrotec.com
Mikroskoptechnik Rathenow	www.askania.de
Mitutoyo	www.mitutoyo.de
Moritex	www.moritex.com

MsiVision	www.msivision.com
NanoFocus	www.nanofocus.de
Nanosurf	www.nanosurf.com
Nikon	www.nikoninstruments.eu
Olympus	www.olympus-europa.com
Opto	www.opto.de
OptoMess	www.optomess.de
Optometron	www.optometron.de
Optoprim	www.optoprim.de
Oxford Instruments	www.oxford-instruments.com
Panasonic	http://business.panasonic.co.uk/imv
PCE Power Control	www.pce-powercontrol.de
Physik Instrumente	www.pi.ws
Pi4_robotics	www.pi4.de
Pro Design Electronic	www.prodesign-europe.com
Richard Wolf	www.richard-wolf.com

Rubroeder	www.rubroeder.de
Schael-Optik	www.schael-optik.de
Schäfer Technologie	www.schaefer-tec.com
Seiwa Optical	www.seiwaopt.co.jp
STZ Qualitätssicherung und Bildverarbeitung	www.stz-ilmenau.de
Tecin	www.tecin.de
Tekno Optik	www.teknooptik.se
Thermosensorik	www.thermosensorik.de
Vega Technology Group	www.vegatcgroup.com
Vision Engineering	www.visioneng.de
Visitool	www.visitool.de
Walter Uhl	www.walteruhl.de
Weiss Imaging and Solutions	www.weiss-imaging.de
Werth Messtechnik	www.werthmesstechnik.de
Wild	www.wild.at

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3D Shape	www.3d-shape.com
Alicona Imaging	www.alicon.com
Allsens Messtechnik	www.allsens.de
Ametek	www.ametek.de
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Andor Technology	www.andor.com
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Carl Zeiss IMT	www.zeiss.de/Messtechnik
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Carl Zeiss Optotechnik	optotechnik.zeiss.com
Chunghwa Leading Photonics Tech (CLPT)	www.clpt.com.tw
CMC Kuhnke	www.cmc-kuhnke.de
ColorLite	www.colorlite.de
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Confovis	www.confovis.com
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Luster LightVision Tech	www.lusterinc.com
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iiM	www.iimag.de
Image House	www.imagehouse.dk
Image S	www.imagesrl.com
Imagic	www.imagic-imaging.com
Imaging Lab	www.imaginglab.it
Impuls	www.impuls-imaging.com
INB Vision	www.inb-vision.com
Industrial Vision Systems	www.industrialvision.co.uk
Infaimon	www.infaimon.com
Innomiles International	www.innomiles.com
Inray Solutions	www.inrays.com
In-situ	www.in-situ.de
Ircam	www.ircam.de
IS Imaging Solutions	www.imaging-solutions.de
Isomorph	www.isomorph.it
Isra Vision	www.isravision.com
IVS	www.industrialvision.co.uk
JAI	www.jai.com
Japan F.A. Systems	www.jfas.co.jp
Joanneum Research	www.joanneum.at
Kappa opto-electronics	www.kappa.de
Karlheinz Hinze Optoengineering	www.hinze-opto.de
Klughammer	www.klughammer.de
Kortiq	www.kortiq.com
Kvant	www.kvant.sk
Lambda Photometrics	www.lambdaphoto.co.uk
Lambda Research	www.lambdares.com
Leica Microsystems	www.leica-microsystems.com
Leutron Vision	www.leutron.com

LMI Technologies	www.lmi3d.com
Luster Lightvision Tech	www.lusterinc.com
Math & Tech Engineering	www.mathtech.eu
Matrix Vision	www.matrix-vision.de
Matrox Imaging	www.matrox.com/imaging
MaxxVision	www.maxxvision.com
Menzel Vision and Robotics	www.menzelab.com
Merz freeform.technologies	www.merz-technologies.com
Mettler Toledo Product Inspection	www.mt.com
Micro Epsilon	www.micro-epsilon.com
Microsystems	www.microsystems.it
Mikromak Service	www.mikromak.com
Mitutoyo	www.mitutoyo.de
Msivision	www.msivision.com
MVTec Software	www.mvtec.com
National Instruments	www.ni.com
Neogramm	www.neogramm.de
NET New Electronic Technology	www.net-gmbh.com
Neurocheck	www.neurocheck.com
Norpix	www.norpix.com
Notavis	www.notavis.com
Odem Technologies	www.odem.co.il
Olympus	www.olympus-europa.com
Omron Microscan Systems	www.microscan.com
Omron	www.industrial.omron.de
Optical Research Associates	www.opticalres.com
Optis	www.optis-world.com
Opto	www.opto.de
Optometron	www.optometron.de
Orbis	www.orbis.eu
Parameter	www.parameter.se
Photonfocus	www.photonfocus.com
Pi4_robotics	www.pi4.de
Pleora Technologies	www.pleora.com
Polytec	www.polytec.de/bv
Profactor	www.profactor.at
Qualimatest	www.qmt.ch
Rapidform	www.rapidform.com
Rauscher	www.rauscher.de
RH Engineering	www.rhengineering.de
Rubroeder	www.rubroeder.de
SAC	www.sac-vision.de

Schäfter+Kirchhoff	www.sukhamburg.de
Schmachtl	www.schmachtl.at
Second2None	www.visiondragon.com
Sedeco Vision Components	www.sedeco.nl
SensorDesk	www.sensordesk.com
Senswork	www.senswork.com
Silicon Software	www.silicon-software.de
Simon IBV	www.simon-ibv.de
SmartSurv	www.smartsurv.de
SPG Data 3D	www.spgdata3d.com
Stemmer Imaging	www.stemmer-imaging.com
STZ Qualitätssicherung und Bildverarbeitung	www.stz-ilmeneau.de
Sualab	www.sualab.com
Supercomputing Systems	www.scs-vision.ch
SVS Vistek	www.svs-vistek.com
Symco	www.symco.co.jp
Systematic Vision	www.systematicvision.com
Tekno Optik	www.teknooptik.se
Teledyne Dalsa	www.teledynedalsa.com
Tema	www.temavisio.com
The Imaging Source	www.theimagingnsources.com
The Mathworks	www.mathworks.com
Thermosensorik	www.thermosensorik.de
Tordivel	www.scorpionvision.com
Trivision	www.trivision.dk
TYZX	www.tyzz.com
Unique Vision	www.unique-vision.net
Univision	www.univision.it
Van de Loosdrecht Machine Vision	www.vdlmv.nl
Vega Technology Group	www.vegatcgroup.com
Visicontrol	www.visicontrol.com
Visiolaser	www.vannier-photelec.fr/visiolaser
Vision & Control	www.vision-control.com
Vision Components	www.vision-components.com
Vision Machines	www.vision-machines.com
Vision Tools	www.vision-tools.com
Visionlink	www.visionlink.it
Vitronic	www.vitronic.com
Vizzion	www.vizzion.com
Weiss Imaging and Solutions	www.weiss-imaging.de
Wenzel	www.wenzel-group.com
X-Rite	www.xrite.com
Zertrox	www.zertrox.de

Vision Sensors, Smart Cameras & Embedded Systems

Acal BFi Germany	www.bfioptilas.com
Active Silicon	www.activesilicon.com
Adaptive Vision	www.adaptive-vision.com
Adlink	www.adlinktech.eu
Advantech Europe	www.advantech.eu
AIT Göhner	www.visionandid.com
Alfavisision	www.alfavisision.de
AMS Technologies	www.amstechnologies.com
Asentics	www.asentics.de
B&R Industrie-Elektronik	www.br-automation.com
Banner Engineering	www.bannerengineering.com
Basler Vision Technologies	www.baslerweb.com
Baumer	www.baumer.com
Camsensor Technologies	www.camsensor.com
Cmos Vision	www.cmosvision.com
Cognex	www.cognex.com
Compar	www.compar.ch
Computer Dynamics	www.cdynamics.com
Cosyco	www.cosyco.de
Cretec	www.cretec.gmbh
Datalogic	www.datalogic.com
De Man Industrie-Automation	www.deman.de
Si-soric	www.di-soric.de
Eltec Elektronik	www.eltec.com
Erhard + Leimer	www.erhardt-leimer.com
EVT Eye Vision Technology	www.evt-web.com
Fabrimex Systems	www.fabrimex-systems.ch
Fastvision	www.fast-vision.com
Festo	www.festo.com
Fibervision	www.fibervision.de
Finger	www.finger-kg.de
Flir Advanced Thermal Solutions	www.flir.com
Framos	www.framos.com
FSI Technologies	www.fsinet.com
G4 Technology	www.g4.com.tw
Hans Turck	www.turck.com
Hema	www.hema.de
Hexagon Manufacturing Intelligence	www.hexagonmi.com
IBN	www.ibn-gmbh.de
IDS Imaging Development Systems	www.ids-imaging.com
Ifm Electronic	www.ifm.de
Image House	www.imagehouse.dk

Image S	www.imagesrl.com
Imaging Solutions Group	www.isgcameras.com
Imago Technologies	www.imago-technologies.com
Imagsa Technologies	www.imagsa.com
IMR Automatisierungstechnik	www.imr-le.de
Infaimon	www.infaimon.com
IOS	www.ios-web.de
IOSS	www.ioass.de
Ipf Electronic	www.ipf-electronic.de
IS Imaging Solutions	www.imaging-solutions.de
Isra Vision	www.isravision.com
ISW	www.isw-gmbh.biz
Japan F.A. Systems Corporation	www.jfas.co.jp
K + P Krempien + Petersen	www.kup-image.de
Keyence	www.keyence.de
Kontron	www.kontron.com
Lambda Photometrics	www.lambdaphoto.co.uk
Leutron Vision	www.leutron.com
Leuze Electronic	www.leuze.com
LMI Technologies	www.lmi3d.com
Lord Ingenierie	www.lord-ing.com
Luster LightVision Tech	www.lusterinc.com
Matrix Vision	www.matrix-vision.de
Matrox Imaging	www.matrox.com/imaging
MaxxVision	www.maxxvision.com
MaZet	www.mazet.de
Menzel Vision and Robotics	www.menzelab.com
Micro Epsilon	www.micro-epsilon.com
Microsystems	www.microsystems.it
Msvision	www.msvision.com
National Instruments	www.ni.com
NET New Electronic Technology	www.net-gmbh.com
Neupro Solutions	www.neupro-solutions.com
Neuricam	www.neuricam.com
Norpix	www.norpix.com
Odem Technologies	www.odem.co.il
Omron Microscan Systems	www.microscan.com
Omron	www.industrial.omron.de
Opto	www.opto.de
Optomotive	www.optomotive.si
Orbis	www.orbis.eu
Panasonic Electric Works	www.panasonic-electric-works.de

Parameter	www.parameter.se
Pepperl & Fuchs	www.pepperl-fuchs.com
Peter Scholz Software + Engineering	www.scholzsue.de
Phytec Messtechnik	www.phytec.de
Pi4_robotics	www.pi4.de
PMDTec	www.pmdtec.com
Pollux	www.pollux.com.br
Polytec	www.polytec.de/bv
PPT Vision	www.pptvision.com
Profactor	www.profactor.at
Pulsotronic	www.bildverarbeitung.pulsotronic.de
Qualimatest	www.qmt.ch
Rauscher	www.rauscher.de
RSB Optotechnik	www.rsb-optotechnik.de
SAC	www.sac-vision.de
Schäfter+Kirchhoff	www.sukhamburg.de
Schmachtl	www.schmachtl.at
Schunk	www.schunk.com
Scintacor	www.scintacor.com
Second2none	www.visiondragon.com
Sedeco Vision Components	www.sedeco.nl
Sensopart Industriesensorik	www.sensopart.de
Sensor to Image	www.sensor-to-image.de
Shape Drive	www.shape-drive.com
Sharp Microelectronics	www.sharpsme.com
Sick	www.sick.com
Siemens	www.siemens.de/simatic-sensors/mv
SKS Vision Systems	www.visionsystems.fi
Smartek Vision	www.smartekvision.com
Smartray	www.smartray.de
Smartsurv	www.smartsurv.de
Soliton Technologies	www.solitontech.com
Sony	www.pro.sony.eu/vision
Stemmer Imaging	www.stemmer-imaging.com
Supercomputing Systems	www.scs-vision.ch
SVS Vistek	www.svs-vistek.com
Symco	www.symco.co.jp
Tattile	www.tattile.com
Tekno Optik	www.teknooptik.se
Teledyne Dalsa	www.teledynedalsa.com

Tichawa Vision	www.tichawa.de
Topsenso	www.topsenso.de
Tordivel	www.scorpionvision.com
Turck	www.turck.de
TYZX	www.tyzx.com
Vega Technology Group	www.vegatcgroup.com
Vialux	www.vialux.de
Videor Technical	www.videor.com
Video Systems	www.videosystems.it
Visicontrol	www.visicontrol.com
Visiolaser	www.vannier-photelec.fr/visiolaser
Vision & Control	www.vision-control.com
Vision Components	www.vision-components.com
Vision Tools	www.vision-tools.com
Visionlink	www.visionlink.it
VRmagic	www.vrmagic.com
Webview	www.webspec.com
Wenglor Sensoric	www.wenglor.com
Werth Messtechnik	www.werthmesstechnik.de
Wintriss Engineering	www.weco.com
Ximea	www.ximea.com
Xiris Automation	www.xiris.com
Zertrox	www.zertrox.de
ZheJiang Huaray Technology	www.huaraytech.com

Vision Systems, Turnkey Solutions, Integration Services

3D Shape	www.3d-shape.com
ABB	new.abb.com
Act Smartware	wp.act-smartware.de
Adaptive Vision	www.adaptive-vision.com
Adept Electronic Solutions	www.adept.net.au
Adept Technology	www.adept.de
AGR International	www.agrintl.com
AIT Göhner	www.ait.de
Aku.automation	www.aku.eu
Alfa Vision Systems	www.alfavisionsystems.com
Alfavision	www.alfavision.de
Alliance Vision	www.alliancevision.com
Altair Industries	www.altairindustriesinc.com
Applied Vision	www.appliedvision.com
Asentics	www.asentics.de
ATN Automatisierungstechnik	www.atn-gmbh.com
Attentra	www.attentra.de
Automation Technology	www.automationtechnology.de
Automation W+R	www.automationwr.de
Autoware	www.autoware.it
AVT Advanced Vision Technology	www.avt-inc.com
B&R Industrie-Elektronik	www.br-automation.com
Balluf	www.balluf.com
Basler Vision Technologies	www.baslerweb.com
Baumer	www.baumer.com
Beratronic	www.beratronic.de
Bertram Elektrotechnik	www.bertram-bevern.de
Bi-Ber	www.bilderkennung.de
Böwe Systec	www.boewe-systec.com
Brainware Solutions	www.null-ppm.info
BST eltomat International	www.bst-international.com
BST International	www.bst-international.com
Camsensor Technologies	www.camsensor.com
Carl Zeiss Optotechnik	optotechnik.zeiss.com
Ceres Vision	www.ceresvision.de
China Daheng Group	www.daheng-image.com
CLK	www.clkgmbh.de
Cognex	www.cognex.com
Cogniac	www.cogniac.co
Coherix	www.coherix.com
Compar	www.compar.ch
Cosyco	www.cosyco.de

Cosynth	www.cosynth.com
Cyth Systems	www.cyth.com
Datalogic	www.datalogic.com
Datapixel	www.datapixel.com
Degotec	www.degotec.com
De Man Industrie-Automation	www.deman.de
DE Software & Control	www.de-gmbh.com
Desconpro Engineering	www.desconpro.de
Digital West Imaging	www.highspeedvideos.com
Divisoft	www.divisoft.com
DMC Vision & Motion	www.dmc-vision-motion.de
Dr. Schenk Industriemesstechnik	www.drshenk.com
Dr. Schwab Inspection Technology	www.schwabinspection.com
Dunkley International	www.dunkleymachinevision.com
Dutch Vision Systems	www.dvs-vision.de
E3tam	www.e3tam.com
Eckelmann	www.eckelmann.de
Edixia	www.edixia.com
EHR	www.ehr.de
Eines	www.eines.es
Electronic Systems	www.electronicssystemsi.it
Ellips	www.ellips.nl
Emhart Glass	www.emhartglass.com
Envision	www.envision.co.kr
Epix	www.epixinc.com
Epson Deutschland	www.epson.de/robots
Erhard + Leimer	www.erhardt-leimer.com
EVK DI Kerschagl	www.evk.biz
EVT Eye Vision Techology	www.evt-web.com
Eyec-UK	www.eyec-ukandireland.co.uk
Fast	www.fast-corp.co.jp
Faude Automatisierungstechnik	www.faude.de
FAW Freudenberg Anlagen und Werkzeugtechnik	www.faw-freudenberg.de
FDS Research	www.fdsresearch.si
FiberVision	www.fibervision.de
Finger	www.finger-kg.de
Fuchs engineering	www.fuchs-engineering.de
Fuetec	www.fuetec.de
Futec Europe	www.futeceurope.com
G4 Technology	www.g4.com.tw

Gefasoft	www.gefasoft.com
Gefat Engineering	www.gefat-engineering.de
Gesellschaft für Bild- und Signalverarbeitung	www.gbs-ilmenau.de
GFai	www.gfai.de
Gidel	www.gidel.com
Goldlücke Ingenieurleistungen	www.giib.de
GOM	www.gom.com
Göpel Electronic	www.goepel.com
GPP Chemnitz	www.gppc.de
Grecon	www.grecon.de
Hasotec	www.hasotec.com
Heitec	www.heitec.de
Helms Technologie	www.helms-technologie.de
Hengstmann Solutions	www.hengstmann.com
Hexagon Manufacturing Intelligence	www.hexagonmi.com
I3 Tech	www.i3tech.de
Ibea	www.ibea.de
ICW [industrie-elektronik]	www.icw-news.de
iiM	www.iimag.de
Ikegami	www.ikegami.de
Image House	www.imagehouse.dk
Image S	www.imagesrl.com
Imago Technologies	www.imago-technologies.com
I-mation	www.i-mation.de
Imess	www.imess.com
Impuls	www.impuls-imaging.com
IMR Automatisierungstechnik	www.imr-le.de
INB Vision	www.inb-vision.com
Industrial Vision Systems	www.industrialvision.co.uk
Infaimon	www.infaimon.com
Infratec	www.infratec.de
Inos Automationssoftware	www.inos-automation.com
Inray Solutions	www.inrays.com
Insensiv	www.insensiv.de
In-situ	www.in-situ.de
Inspectron	www.inspectron.ch
Inspekto AMV	www.inspekto.com
Insytems Automation	www.insytems.de
Intego	www.intego.de
Intopii	www.intopii.fi

IOS	www.ios-web.de
Ioss	www.ioss.de
Irida Labs	www.iridalabs.gr
IS Imaging Solutions	www.imaging-solutions.de
Isa Industrielektronik	www.isaweiden.de
Isomorph	www.isomorph.it
Isra Vision	www.isravision.com
ISW	www.isw-gmbh.biz
Itech Engineering	www.itecheng.com
IVS	www.industrialvision.co.uk
J&P Vision	www.jupvision.de
Japan F.A. Systems	www.jfas.co.jp
Jasvisio - Vision Artificial	www.jasvisio.com
JLI Vision	www.jli.dk
Joanneum Research	www.joanneum.at
K + P Krempien + Petersen	www.kup-image.de
Kaiser Computersysteme	www.isotronika.de
Kdorf Automation	www.kdorf.de
Keyence	www.keyence.de
Kirin Techno-System	www.kirintechno.co.jp
KMS Engineering	www.kms-e.de
Kolektor Orodjarna	www.kolektorvision.com
L&P	www.lp-gmbh.de
Laetus	www.laetus.com
Leuze Electronic	www.leuze.com
Limess	www.limess.com
Lincoln Laser Company	www.lincolnlaser.com
Machine Vision Technology	www.machine-vision-technology.co.uk
Menzel Vision and Robotics	www.menzelab.com
Merz freeform.technologies	www.merz-technologies.com
Meta Vision Systems	www.meta-mvs.co.uk
Mettler Toledo Product Inspection	www.mt.com
Mevisco	www.mevisco.com
Micro Epsilon	www.micro-epsilon.com
Omron Microscan Systems	www.microscan.com
Mikrotron	www.mikrotron.de
Modi Modular Digits	www.modi-gmbh.de
Moser Industrielektronik	www.moser-gmbh.de
Msvision	www.msvision.com
Neogramm	www.neogramm.de

Neupro Solutions	www.neupro-solutions.com
Neuricam	www.neuricam.com
Neurocheck	www.neurocheck.com
Neurotechnology	www.neurotechnology.com
Nikka Research Deutschland	www.nikka-research.com
Nikon Metrology	www.nikonmetrology.com
Nokra	www.nokra.de
Norman N. Axelrod Associates	www.axelrodassociates.com
Norpix	www.norpix.com
Northwire	www.northwire.com
OCS	www.ocsgmbh.com
Octum	www.octum.de
Omron	www.industrial.omron.de
Opsis	www.opsis.de
Optel Vision	www.optelvision.com
OptoFidelity	www.optofidelity.com
OptoNova	www.optonova.se
Orbis	www.orbis.eu
Orbotech	www.orbotech.com
Orus Integration	www.orusintegration.com
Otto Vision Technology	www.otto-jena.de
Panasonic Electric Works	www.panasonic-electric-works.de
Parameter	www.parameter.se
Pattern Recognition Company	www.pattern-recognition-company.de
Paul Leibinger	www.leibinger-group.com
PCE Pharmacontrol	www.pharmacontrol.de
PCS Industries	www.pcindustries.com
Pepperl & Fuchs	www.pepperl-fuchs.com
Perceptron	www.perceptron.com
Peter Scholz Software + Engineering	www.scholzsue.de
Phytec Messtechnik	www.phytec.de
Pi4_robotics	www.pi4.de
Pilz	www.pilz.de
Pixargus	www.pixargus.de
Plasmo Industrietechnik	www.plasmo.eu
POG Präzisionsoptik Gera	www.pog.eu
Pollux	www.pollux.com.br
Polygon	www.polygon-technology.de
Polytec	www.polytec.de/bv
PPT Vision	www.pptvision.com

Pressco Technology	www.pressco.com
Profactor	www.profactor.at
Prüftechnik Schneider & Koch	www.prsuk.de
Pulsotronic	www.bildverarbeitung.pulsotronic.de
Qualimatest	www.qmt.ch
Quiss	www.quiss.com
R&W Industriautomation	www.r-u-w.de
Radix Controls	www.radixcontrols.com
Rbc robotics	www.rbc-robotics.de
Recognitec	www.recognitec.de
RH Engineering	www.rhengineering.de
Rohwedder	www.rohwedder.com
RSB Optotechnik	www.rsb-optotechnik.de
Rubroeder	www.rubroeder.de
Rudolph Technologies	www.rudolphtech.com
SAC	www.sac-vision.de
Scanware electronic	www.scanware.de
Schäfter+Kirchhoff	www.sukhamburg.de
Schmachtl	www.schmachtl.at
Schönherr Elektronik	www.schoenherr-elektronik.com
Second2none	www.visiondragon.com
Seidenader	www.seidenader.de
Sensor Control	sensor-control.de
Sensor to Image	www.sensor-to-image.de
Senswork	www.senswork.com
Serview	www.serview.net
Servo-Robot	www.servorobot.com
Sidonia Systems	www.sidoniasystems.de
Signum	www.signum-vision.de
Simac Masic	www.simacmasic.nl
Simon IBV	www.simon-ibv.de
SL Tec	www.sltec.de
Smartray	www.smartray.de
Solex	www.solexvision.com
Solving3D	www.solving3d.de
Soma	www.soma.de
SPG Data 3D	www.spgdata3d.com
Carl Zeiss Optotechnik	optotechnik.zeiss.com
Stemmer Imaging	www.stemmer-imaging.com
Stöhrmann Systemtechnik	www.stoehrmann.de

Stratec Control Systems	www.bbull.com
STZ Qualitätssicherung und Bildverarbeitung	www.stz-ilmenau.de
Sundance Multiprocessor Technology	www.sundance.com
Surface Inspection	www.surface-inspection.com
SVS Vistek	www.svs-vistek.com
Symacon Engineering	www.symacon.de
Symetix	www.symetix.com
Sys Vision	www.isys-vision.de
Syscon	www.syscon-vision.de
Systech	www.systech-tips.com
Systematic Vision	www.systematicvision.com
Tattile	www.tattile.com
Technoteam	www.technoteam.de
Teledyne Dalsa	www.teledynedalsa.com
Tema	www.temavisio.com
Thermosensorik	www.thermosensorik.de
Tiama	www.tiama.com
Tichawa Vision	www.tichawa.de
Tordivel	www.scorpionvision.com
Trivision	www.trivision.dk
TST Engineering & Vision	www.tstvision.com
TYZX	www.tyzx.com
Unique Vision	www.unique-vision.net
Univision	www.univision.it
Vega Technology Group	www.vegatcgroup.com
Vester Elektronik	www.vester.de
Videometer	www.videometer.com
Video Systems	www.videosystems.it
View-Factor	www.view-factor.com
Vigitek	www.vigitek.com
Viscom	www.viscom.com
Visicontrol	www.visicontrol.com
Visimation	www.visimation.de
Visio Nerf	www.visionerf.com
Violaser	www.vannier-photelec.fr/visiolaser
Vision Automation	www.visionautomation.dk
Vision Experts	www.vision-experts.com
Vision Machines	www.vision-machines.com

Vision Tools	www.vision-tools.com
Vision-Consult Bildverarbeitung	www.vision-consult.com
Visionlink	www.visionlink.it
Visiotek	www.visiotek.com.tr
Visolution	www.visolution.de
Visotect	www.visotect.de
Visuelle Technik	www.visuelle-technik.de
ViTec	www.vitec.ru
Vitronic	www.vitronic.com
VMT	www.vmt-gmbh.com
V-Research	www.v-research.at
Waygate Technologies	www.waygate-tech.com
Weber Systemtechnik	www.wesys.de
Weiss Imaging and Solutions	www.weiss-imaging.de
Weitblick Systems	www.weitblick-systems.at
Wenglor Sensoric	www.wenglor.com
Wente/Thiedig	www.wente-thiedig.de
Wickon Hightech	www.wickon.com
Wintriss Engineering	www.weco.com
Wolf Systeme	www.wolfssysteme.de
Zertrox	www.zertrox.de
Ziemann & Urban	www.ziemann-urban.de

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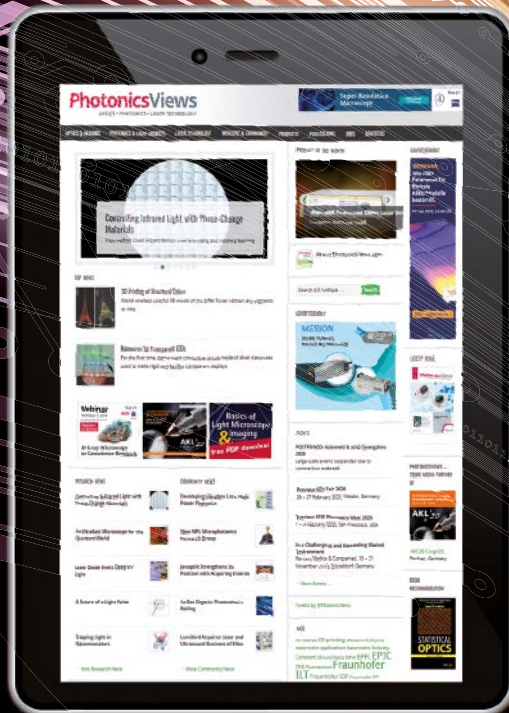
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