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Europe 2016

From the point of view of the companies which are advancing the use of industrial image processing and the development of new systems and solutions, a review of the year 2015 will certainly be positive. This perception is reinforced by the figures and statistics from various associations.

Vision technologies and automated measuring systems are becoming essential factors for the success of the fourth industrial revolution in the production industry. The fact that „Industry 4.0“ or the „Industrial Internet of Things“ depend on further progress in these key areas will not change in 2016.

The creativity, knowledge and skills of scientists, engineers and technicians flourish wherever there is freedom of thought and international cooperation and where economic and technological goals can be aimed for and achieved in an atmosphere of mutual trust. Europe was, and remains a region of the world which can provide all of these conditions.

However, at the end of 2015 and the start of 2016 Europe is in an exceptional situation which demands statements of standpoints and orientation to the values which ensure peaceful and successful further development.

It remains to be seen whether it will be sufficient to counteract the growth of ignorance, intolerance and increasing nationalism with a pragmatic attitude of „business as usual“. However, there is no doubt that calm and reasoned action is a good basis for the continuation of the success of previous years in 2016. Reporting on the successful use of the latest technology makes the work of the specialist media both interesting and exciting.

More than ever, there is a need for reliable scenarios for the future and the think tanks of the academic „oracles“ are endeavouring to satisfy this need. At this point in time, the continuation of the success story of vision technologies and measuring and inspection technology is easily foreseeable and should be a good reason to look forward to 2016.

If you are looking for collaborators in this success story, you can find them in our international Buyers Guide 2016. You can make good use of this to create new and successful solutions in your field.

Bernhard Schroth

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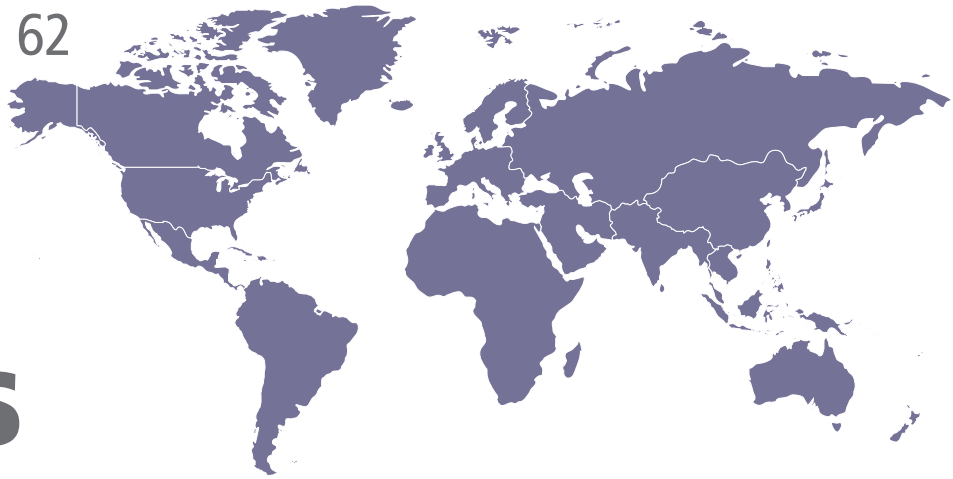

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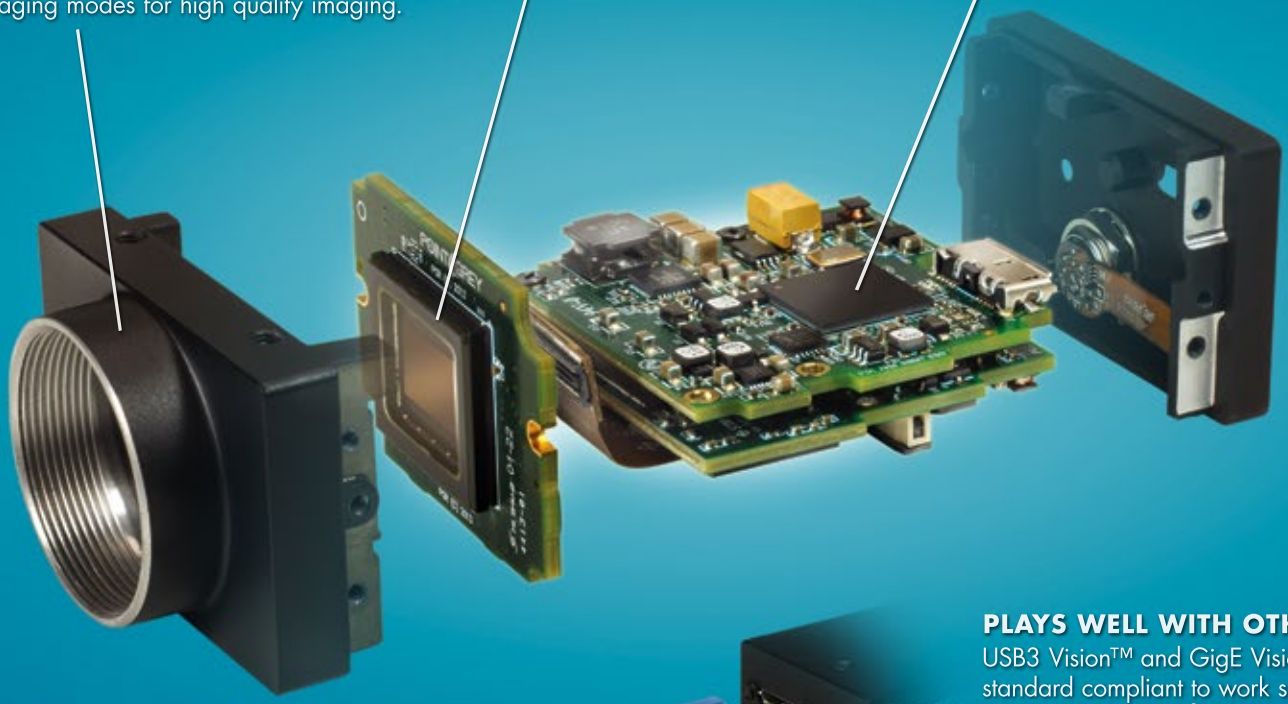

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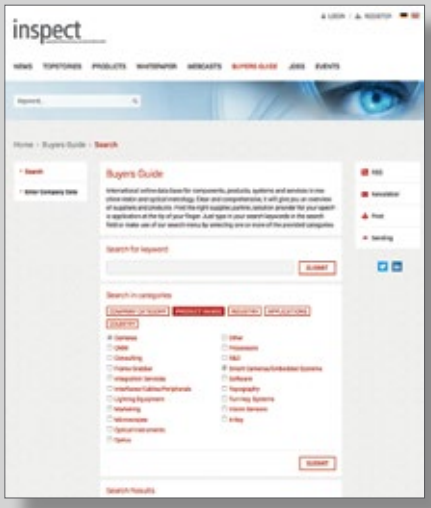
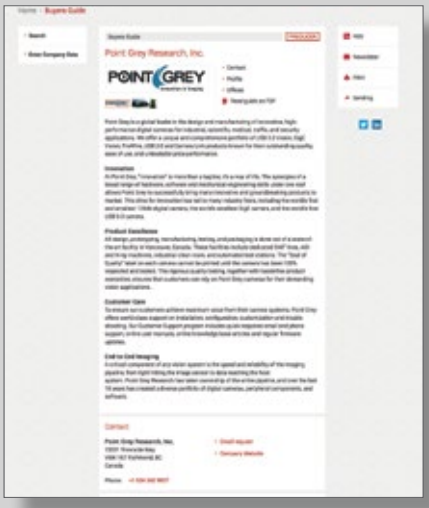
Machine Vision and Optical Metrology in Europe

The inspect Buyers Guide 2016

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 Buyers Guide provides sophisticated search functions for all listed companies.



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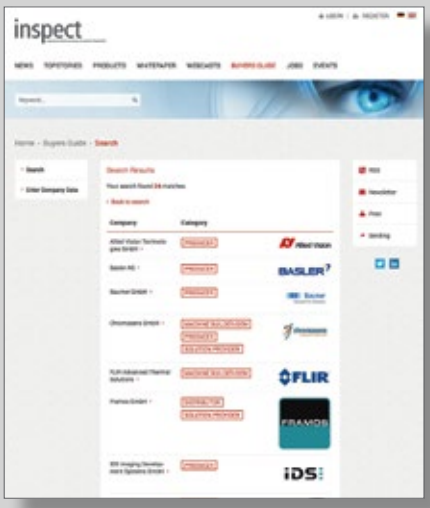

The full text search for "camera" yields 24 results: every company having used the word "camera" in their description is listed.

The inspect Buyers Guide is published in its eighth year now, for the seventh time it also serves as the official Buyers Guide of the EMVA, the European Machine Vision Association. The guide contains information about more than 450 companies from over 30 countries. The inspect Buyers Guide has a clear focus on companies doing business in Europe or exporting their goods to Europe. Naturally this comprehends companies and organizations from all over the world.

Online ...

The inspect Buyers Guide is a true cross-media product. At www.inspect-online.com/buyers-guide the online database provides sophisticated search functions for all listed companies. Every entry can be searched for with full-text search, and every listed company will be found here based on the individual company description. Additionally, every listed company will be found by name, company category (e.g. producer, integrator, research facility, association, etc.) and country of headquarters.

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. These, and only these, companies will be found in the respective search categories.

The online Buyers 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 inspect Buyers Guide printed edition 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 sub-divided into too many categories.

The inspect Buyers Guide 2016 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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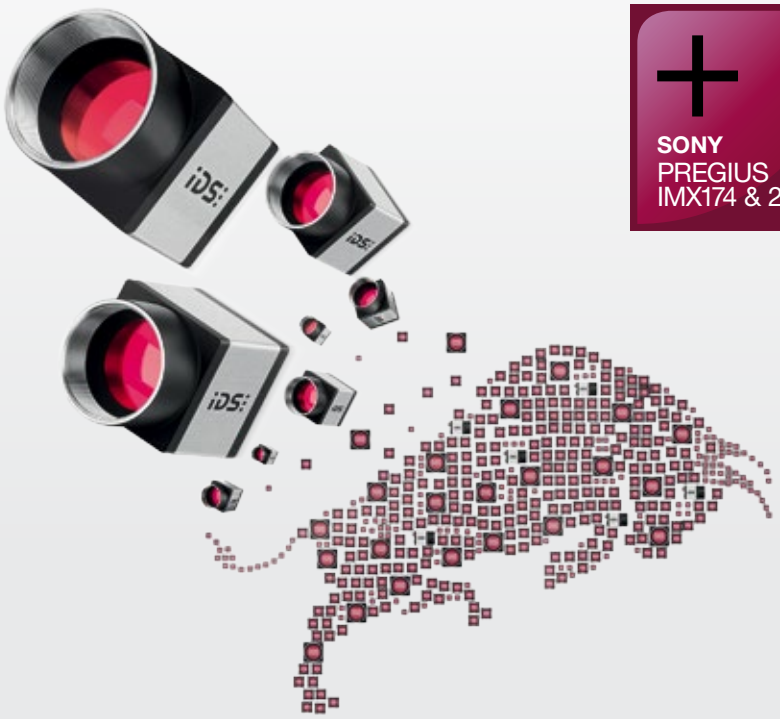

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Solid Market Growth for the European Machine Vision Industry

EMVA Looks Ahead to A Busy Year with New Partnerships

2015 has been a very successful year for the European machine vision industry. Demand for vision technology from Europe was strong throughout the year regardless of another peak in the Euro crisis with Greece coming close to sovereign default in June and first clouds on the economic horizon in China later in the year.

After having surveyed the first three quarters of the year the EMVA Quarterly Sales Report indicates that the European machine vision market will close the calendar year with a total growth of 10 % (+/-1 %) compared to the previous year; and all indicators point towards a continuation of this positive trend into 2016.

Despite the fiscal turmoil Greece has proved to be a wonderful host for the machine vision community during the EMVA Business Conference in Athens which took place only shortly before things got slightly out of hand in July. Some 110 participants from 18 countries attended the event and once more enjoyed high level speeches addressing topics in the areas of management, technology, innovation, markets and marketing as well as the outstanding networking opportunities. Looking ahead towards the 14th EMVA Business Conference next year in Edinburgh/Scotland preparations are already under way. Registration is already open for the conference which will take place June 9 through 11, 2016, in the Radisson Blue Hotel, Edinburgh with its 16th-century style façade.

In the field of market research EMVA has again provided in-depth market research as well as up-to-date data for management decisions. The quarterly market data survey which is made available to all contributing companies gives a regular update on the economic development with input right out of the industry. In addition, stakeholders inside and outside the vision industry confirm the attractiveness of the most recent country report "Machine Vision in Italy" which again

maps a key market in Europe for the machine vision industry. Amongst a detailed market analysis the report contains a comprehensive list of enterprises and public institutions in Italy active in the diverse fields of machine vision. While EMVA members receive the country reports free of charge non-members may obtain the study from the EMVA head office. The next country report is already scheduled for 2016 and will provide detailed information about yet another key market in Europe.

„European machine vision market will close the calendar year with a total growth of 10%."

EMVA has further increased its efforts during 2015 to strengthen cooperation with various trade show organizers. For the first time the Control – International trade fair for quality assurance in Stuttgart - partnered with EMVA and invited General Secretary Thomas Lübkemeier to speak at the opening press conference of the show. For 2016, the 30th edition of Control, an extended cooperation is in preparation which will include an all-new machine vision forum on the show ground hosted and organized by the EMVA.

Cooperation is also under way for next years´ edition of the SPS IPC Drives Italia in Parma, surely a key Italian trade show for the automation industry. Here the EMVA and Messe Frankfurt Italia started preparations of a networking reception specifically targeting the Italian machine vision community.

Last but not least, after two years Stuttgart will once again become the epicenter of the machine vision world in November next year and the EMVA will be proud to be again the host of the vision community at the International Vision Night on the eve of Vision 2016.

Besides all operative activities promoting the machine vision industry on an international level the EMVA is very aware of the strategic topics for the industry. The technological advances in the field of embedded systems will affect the vision world not only in the non-industrial field but also in the traditional industrial vision applications; and the positioning of machine vision within the wide Industry 4.0 or Internet-of-Things concepts are seen as tasks for the very near future. The EMVA Board of Directors is already actively discussing these topics with main players inside and outside of our industry. The EMVA invites members and non-members to actively participate in this process.

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EMVA General Secretary

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USB Type C plug and socket

A New Generation

What Does USB 3.1 Have to Offer for Industrial Imaging?

The new interface standard USB 3.1 is currently taking over the world of consumer electronics and IT. It offers data rates of 10 Gbit/s and power transfer of 100 Watt. Does this open up new possibilities for low-cost image processing systems with high resolutions, high image rates and new wiring concepts? The answer is very promising, however several challenges have not yet been resolved...

Since this year's Consumer Electronics Show in Las Vegas, everyone is talking about USB 3.1. Even Apple, the only computer manufacturer which has retained the competing Thunderbolt standard for many years, is now changing over to USB 3.1. Thanks to the large band width, external hard drives are just as fast as internal drives via SATA III. USB 3.1 ports can charge notebooks and simultaneously act as network interface display ports and power supply screens. This results in completely new interface and wiring concepts. Even completely new types of products are possible, such as battery packs – acting as "portable power sockets" which can charge the batteries of several devices simultaneously and also serve as USB hub.

From USB 2.0 and FireWire up to Gigabit Ethernet and USB 3.0 - over the past 15 years industrial imaging has always followed the trends in computer technology, as this reduces the costs for PC interfaces, chip sets and the development of drivers. However, innovation cycles are becoming shorter. At the Vision 2014, almost all manufacturers had USB 3.0 cameras ready for series production and now there is already a new version of the standard.

New Sensors Need Bandwidth

However, USB 3.1 also opens up new possibilities for Machine Vision. The new Sony Pregius CMOS sensors with Global Shutter Technology, 5 megapixels and 145 frames per second require a bandwidth of at least 7.25 Gbps to utilize their full performance with 10 Bit per pixel. Also the 5.3 megapixel sensor from the OnSemi Python family cannot achieve its maximum of 100 fps on a USB 3.0 platform. This can also not be achieved by the Cmosis CMV sensors, which are on the market for a while already. Due to the bandwidth, camera manufacturers and users must use Camera Link, 10 Gigabit Ethernet or CoaXPress for critical real-time applications. However, before becoming euphoric, it is worth taking a look at the specifications of the new standard.

It Depends on the Generation

USB 3.1 comes in different flavours, mainly by means of two generations, referred to as Gen1 and Gen2. In principle, Gen1 is just another name for USB 3.0. The protocol and the data rate have not been changed. Most of the USB 3.1 devices which are available on the market use Gen1 and cannot exceed the theoretical 5 Gbps of USB 3.0. Still USB 3.1 Gen1 brings several great improvements, as it allows an increased power transfer and the use of more user-friendly plug connectors. It is only USB 3.1 Gen2 which offers the often cited 10 Gbps or an effective bandwidth of 800 MB/s. With this, it is more than twice as fast as Gen1 or USB 3.0 with an effective rate of only 350 MB/s. What is more impressive than double the bandwidth is the increased power transfer according to the new USB Power Delivery 2.0 specification. With this, USB 3.1 ports will be able to supply up to 5 ampere at 20 volts (100 Watts). This alone creates great technical challenges for electronics, plug connector and cable manufacturers due to the large bandwidth and the compact design.

An End to "Which Is the Right Way Round"?

You likely know precisely where to find the USB port on your notebook, tablet or smartphone. In spite of this, how many attempts do you need to plug in a USB stick, a mouse or a charging cable without taking a careful look? After more than 17 years, the USB Implementers Forum (USB-IF) has given in and at least with regard to the plug design waived the backward compatibility for so-called Type A (host side) and Type B (peripheral side) plug connectors: With the new USB Type C (see photo) there is no longer any top

About the author: With his business consultancy and marketing agency Vision Markets, **Dr. Ronald Müller** helps small and medium sized companies to utilize the opportunities of the global growth markets of imaging and photonics.

and bottom or a difference between the host and the peripherals. This means that a USB 3.1 cable with Type C plug connectors can be plugged in on either side and the plug connector fits in the socket, no matter which way round it is inserted.

USB 3.1 @ Machine Vision

The need for greater bandwidth is driven by applications in which moving objects have to be recorded with the greatest possible resolution with regard to time and space, like for the inspection of semiconductor products and surfaces, three-dimensional measurement of foods, sorting of waste, tracking of particles in wind and flow tunnels, analysis of sporting events and many more. Cameras with fast sensors, high resolution and a high-performance data interface allow simpler and more cost-effective system designs if several lower resolution cameras are replaced with a single high-resolution camera. This may also mean an increase in the frame recording rate and the resolution in the automation of production, so that production systems can be operated faster and even smaller defects can be precisely detected. Here, USB 3.1 Gen 2 with its effective 800 MB/s promises new, economical possibilities. In spite of this, real-time characteristics will – as previously – be generally restricted and will depend heavily on the implementation of the software driver and the operating system. It may take some time before cameras with USB 3.1 Gen2 make it to the market. Although some innovative camera manufacturers may already be very close to an implementation of USB 3.1 Gen2, the majority of manufacturers are waiting for the chip sets from Cypress & Co. and this, as with USB 3.0 – will take some time. Because of this, the market launch of most of the products with USB 3.1 Gen2 can probably be expected towards the end of 2017.

USB Type C Is Coming

This will probably occur considerably more simply and faster in the case of USB Gen1 cameras with USB Type C plug connectors. Now that the major market players Asus and MSI are aggressively marketing motherboards with USB 3.1 and 10 Gbps, it can be assumed that USB 3.1 with Type C plug connectors will become the standard in new PCs in the coming year. However, camera customers do not need to be worried: All USB 2.0/3.0 cameras with USB Type B or MicroB sockets will also function on the new ports, if they have the corresponding cable or adapter. The USB Type C plug connector which can be inserted any way round will probably not offer many advantages to system manufacturers who build an industrial camera and then connect and permanently fasten the plug. At least the USB Type C plug connector with a width of 8.25 mm

> **„USB 3.1 comes in different flavours: Gen1 and Gen2.“**

is almost 33 % narrower than the USB 3.0 MicroB, therefore needs less space on the camera PCB and allows for even more compact designs. According to our latest survey, leading machine vision cable manufacturers expect that the maximum length of passive cables will also remain unchanged for USB 3.1 Gen1 with Type C plug connectors. Up to now, nobody has dared to make a forecast for the maximum cable length of USB 3.1 Gen2. At present, the USB-IF is considering the fastening for Type C plug connectors. Traditional screw fastening or clips are being discussed. The latter would make production easier, especially for camera manufacturers, due to the greater mechanical tolerances. Now that USB Power Delivery 2.0 enables the transmission of up to 20 volt and 5 ampere, new options result for the wiring of cameras, flash control and lighting. With only a single cable between the PC and the camera and another cable between the camera and the flash controller, both devices could be supplied with power, controlled and read out. For this, close cooperation between camera and flash control manufacturers would be required, ideally on the basis of a dedicated standard.

Questions Remain

System developers and applications are hungry for bandwidth. Even USB 3.0 has not been sufficient for some time now. 10 Gigabit Ethernet still consumes too much power. Anyone who finds Camera Link and CoaxPress to be too inconvenient and proprietary, can look forward to USB 3.1 Gen2 and its entry into industrial image processing. The bandwidth, power transfer and plug connectors have been considerably improved. However, several questions remain: What will be the achievable cable length? How can such volumes of data be processed and saved? When will the first cameras arrive? With knowledge of the market and the use of proven product management methods, component and system manufacturers can make the right decisions in such situations and bring themselves in position to benefit from the new opportunities of this technological progress..

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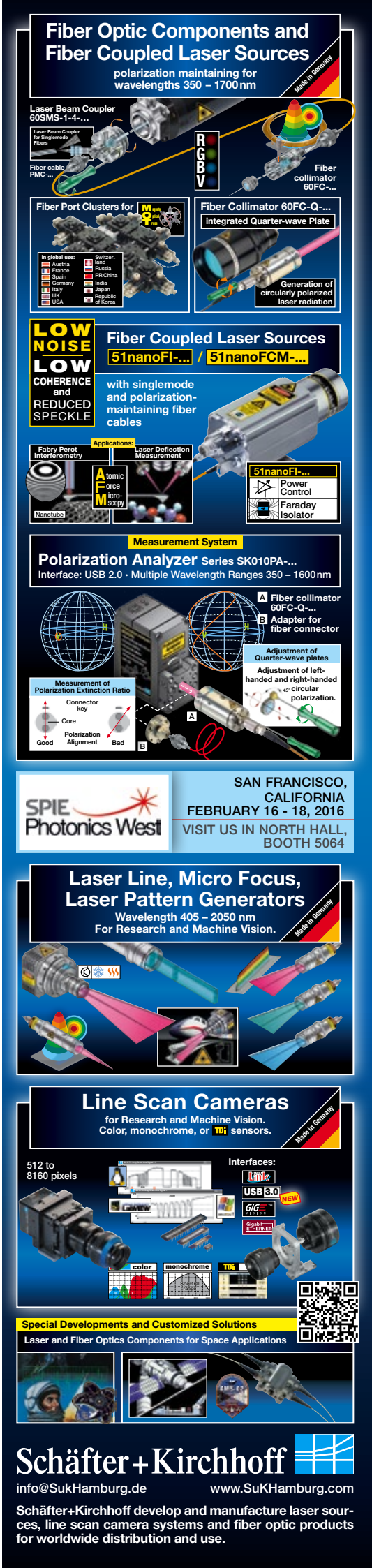

Dr. Gerhard Holst, Research Manager at PCO

Martin Schwarzbauer, Development Engineer at PCO

Promising for the Future: High-performance Interface Standard Camera Link HS

Dr. Gerhard Holst, Research Manager and Martin Schwarzbauer, Development Engineer at PCO spoke to inspect about the development status of the Camera Link HS communication interface for high-speed cameras in comparison with CoaXPress.

High-speed cameras are no use if the large volumes of data cannot be rapidly transferred to the computer. For this, two rival interface standards exist: CoaXPress and Camera Link HS. While CoaXPress is slowly becoming established, very little is heard about Camera Link HS, although the standard has several advantages over CoaXPress. What is the reason for this?

inspect: CoaXPress (CXP) is increasingly becoming the standard high-performance interface for connecting high performance cameras to computers, but hardly anything is heard about Camera Link HS (CLHS) as an alternative. IS the CLHS interface standard now dormant?

M. Schwarzbauer: On the contrary, it is now becoming fully awake! As CXP came onto the market earlier, manufacturers of cameras and frame grabbers paid more attention to this interface. Because of this, especially in the field of frame grabbers, a gap opened up which will gradually close in the future. As well as this, CXP and HSLink, the predecessor of CLHS were relatively similar. However, there are a few major differences and even advantages in comparison with CXP.

inspect: What are the most important differences or advantages of Camera Link HS in comparison with CoaXPress?

M. Schwarzbauer: There are several differences. However, the main difference lies in the cable connection between the camera and the frame grabber: At the moment CXP is heavily oriented to coaxial cables, while CLHS concentrates on optical cables. Optical cables are especially attractive, because the signal transfer is better. They are not sensitive to electromagnetic interference, they do not produce any interference themselves and they are easy to handle, light and cheap. The situation is different with coaxial cables. As well as this, with CXP, users are currently restricted to a maximum transfer speed of 6.25 Gigabit per second (Gb/s) and a maximum cable length of 68 m, depending on the type of cable. In contrast, with optical cables and CLHS the transfer distance is theoretically infinite and at present the maximum transfer rate is 10,3125 Gb/s. On the other hand, an advantage of CXP is power-over-cable, which means that there is the facility to use the data cable for the camera power supply. This is not the case with CLHS.

G. Holst: I would like to add something here. Coaxial cables for CXP are special cables which have been explicitly designed for this interface and are accordingly expensive, while CHLS uses the cheap standard network hardware of 10 Gigabit Ethernet (10 GigE). This not only applies to cable. With CLHS the transmitter and receiver are based on off-the-shelf Ethernet technology. In contrast, CXP uses special cable drivers for the camera and special cable receivers for the frame grabber, which are matched to the signal.

M. Schwarzbauer: For us, the main differences between the two high-performance interfaces are in the bandwidth, the scalability and the way in which reliable transfer is ensured, i.e. via the Resend and Forward-Error correction mechanisms. In terms of transfer reliability, CLHS is considerably better and more convenient than CXP.

inspect: Who is backing CHLS and what is the present status of the CLHS standard specification? What has already been implemented, what is planned and when will this become available?

M. Schwarzbauer: Of course, CLHS is backed by the Global Association for Vision Information AIA as the supporter of the standard. Teledyne Dalsa chairs the Camera Link HS sub-committee and provides HSLink as the basis of CLHS. Other companies which are actively working on the CLHS standard include JAI, Matrox Imaging, Silicon Software and PCO. With regard to the CLHS specification, Version 1.0 of March 2015 is the current version. There are the M and the X protocols. The main differences between these are the channel coding and the speeds. As with CXP, the CLHS-M protocol also uses 8B/10B coding with Packet-Resend mechanism, while in contrast the X protocol uses the considerably more efficient 64B/66B coding with Forward Error Correction (FEC). The higher protocol level

Fortsetzung auf S. 14

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(Message Layer) is identical with the M and the X protocols. However, I would like to focus on the X protocol, as this will be the future for high-performance interfaces. At present, there is intensive work on the CLHS specification Version 2.0, which should be complete in summer 2016, so that it will be officially available at the VISION exhibition in autumn 2016. There will be extensions in CLHS Version 2.0. For example, the actual image data will have a more universal structure than at present, so that in future 3D data will be able to be transmitted without problems. We consider this to be a great advantage. As well as this we have defined a function in order to measure the length of the cable or the time which a message requires for transmission via the cable. This is necessary for applications which involve very long distances to the camera, in order to determine the correct timeout values for the communication. In addition, the information can be used to compensate for signal propagation delays for Trigger-over-Cable, if e.g. several cables of different lengths are connected to a single frame grabber. This means that the frame grabber can cause a trigger event, which arrives at all of the cameras at precisely the same time in spite of different cable lengths. An additional extension are ROIs, i.e. detailed sections of the image within the image, which can be changed on-the-fly to obtain enlarged or shifted ROIs. These are the most important extensions with regard to the protocol. With regard to the hardware, further plug connectors are being discussed, e.g. QSFP plug connectors will be officially introduced so that a bandwidth of 4.8 Gbyte/s can be obtained via a single plug connector for the X protocol.

inspect: What is the advantage of the fact that with CLHS the IP core is integrated into a Field Programmable Gate Array (FPGA)?

M. Schwarzbauer: This is also possible with CXP. However, a special feature of CLHS is that a Committee-IP core is provided. This can be obtained cheaply from AIA. Non-members of Camera Link HS pay a small fee of USD 1,000, while this is free of charge for members. The Committee-IP core has a great advantage: If everyone uses this IP core, this ensures that everything is intercompatible. Then there are no different development levels and the same features are implemented. The objective is to enable device manufacturers to quickly implement the CLHS interface and therefore achieve a very short time-to-market. At this point I would like to emphasise that with CLHS, if FPGAs with 10 Gb transceivers are used, no external components are necessary as is the case with CXP. The SFP+ module (electro-optical converter) can be connected directly to the FPGA. Implementation of the hardware is therefore exceedingly simple.

inspect: From what you say, a significant advantage of CLHS in comparison with CXP is the data security concept. Could you please explain this in more detail?

M. Schwarzbauer: One of the requirements of CLHS is the necessity not to lose data in case of individual bit errors. Because of this, mechanisms for the correction of bit errors were defined for Camera Link HS. There are two different solutions for the CLHS protocol: On the one hand, protocol information (Protocol Headers) is transferred several times (data redundancy) and on the other hand the application data (content of video and command data) are secured with a Cycle Redundancy Check (CRC) so that the data is re-sent in case of an error (Resend mechanism). In contrast, the CLHS X protocol uses 64B/66B coding with Forward Error Correction. Due to the technology, channel coding on the Physical Coding Sub-Layer (PCS), there is no additional overhead due to the FEC. Therefore, for a physical coding block, up to 11 Bits can be corrected for block errors without an additional latency time. With the use of FEC and the elimination of the necessity for the Resend mechanism, the CLHS X protocol greatly simplifies implementation into the FPGA. At present CXP does not use any error correction for video data. Otherwise the mechanisms are similar to those of the CLHS M protocol. It must be emphasised that the CLHS M protocol and CXP use the 8B/10B protocol for channel coding. This means that here, on the lowest level, 20 % of the bandwidth is "wasted" without any error correction measures. With 64B/66B channel coding, the CLHS X protocol is far more effective with only a 3 % loss of bandwidth.

inspect: For CLHS, special attention was placed on trigger capability. Why is that so and what are the advantages to users – for example with regard to line scan cameras?

M. Schwarzbauer: For Teledyne Dalsa line scan cameras it is very important to be able to trigger these with a very high frequency of about 200 kHz with jitter which is as low as possible. The CLHS protocol was oriented to this. In addition, there was the requirement for direct control of the sensor. For example, with CLHS, different colours can be exposed for different times using the different trigger signals. CLHS not only uses high frequencies with low jitter of approx. 3 ns for triggering, but also the trigger packages, which contain the trigger information are very universally structured, so that various trigger events can be implemented.

inspect: So a scalable and future-proof camera solution is very important? What about the selection of the CLHS interface?

G. Holst: Our intention was to specify an interface which is easily scalable. Today's requirements for transfer volumes are increasing rapidly and we do not want to have to design a new interface from first principles for every jump in speed. This meant that scalability was a very important point. Up to now, CLHS looks very good. With the pco.edge camera we have a single channel application and with the pco.flow we have a camera with four independent cables which can be connected to computer systems in any way. Due to CLHS it does not matter whether the four cables are connected to a single frame grabber or whether four frame grabbers are used for the camera.

M. Schwarzbauer: Above all, with regard to the future I would like to emphasise that standard components are used for CLHS, which is a great advantage of CLHS in comparison with CXP. This means that we are going with the flow with Ethernet. If speed requirements increase, CLHS will also benefit, because we use precisely the same hardware. This minimises the investment risk. We use the lowest protocol level which is necessary for this technology. This has nothing to do with the Ethernet protocol as such, but only relates to the physical layer, which specifies where a data package starts and finishes. Therefore it is entirely conceivable that if in future optical modules for 25 GigE are available for the consumer market, we will also be able to use these 1:1. With CLHS we do not need to rely on any special hardware. In contrast, with CXP investment in new chips is necessary for each jump in speed. This is completely eliminated with us.

inspect: What do you consider are the market opportunities for Camera Link HS in the future and on what do these mainly depend?

M. Schwarzbauer: All three interfaces, 10 GigE (Vision), CXP and CLHS will be on the market. Ultimately it is the camera or the application which decides which interface is best suited. If you are talking about genuine high-range, then CLHS will primarily have the advantage in the future. Above all this is because we can upgrade the speed more cheaply and easily than with CXP – and that is an enormous advantage.

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Further Information
www.pco.de

http://www.inspect-online.com/en/topstories/topics/promising-future

AIA Global Association for Vision Information
http://www.visiononline.org/vision-standards.cfm

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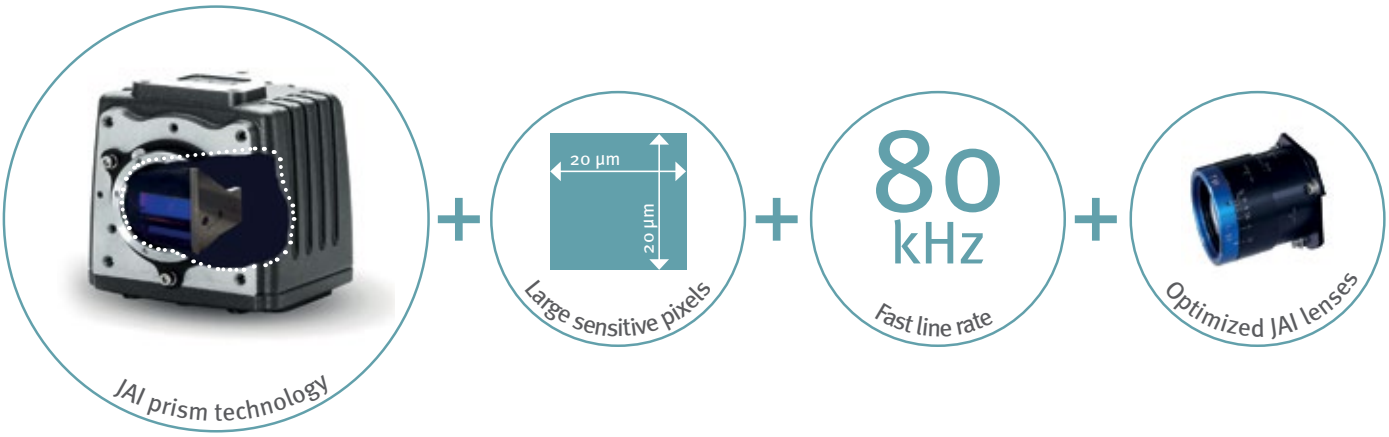

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Trade Fairs & Conferences 2016

13. - 18.02.2016
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http://spie.org/x2584.xml

23. - 25.02.2016
Nuremberg, Germany
Embedded World

Embedded World is the leading international Fair for embedded systems. Be it security for electronic systems, distributed intelligence, the Internet of Things or e-mobility and energy efficiency, the embedded world trade fair in Nuremberg enables visitors to experience the whole world of embedded systems.

www.embedded-world.de

24. - 26.02.2016
Bilbao, Spain
Metromeet 2016

12th International Conference on Industrial Dimensional Metrology. Metromeet is the most important conference in the sector of industrial dimensional metrology. Metromeet provides information about the latest technological, the progress made in the sector and we constitute a forum for debate on metrology and its development in a fast changing industry.

www.metromeet.org

02. - 03.03.2016
Wetzlar, Germany
W3+ Fair

The W3+ Fair is an interdisciplinary networking trade fair for the fields of optics, electronics and mechanics. It provides these high-tech sectors with a new, multidisciplinary forum for information, innovation and contact.

www.w3-messe.de

08. - 10.03.2016
Guangzhou, China
SPS – Industrial Automation Fair Guangzhou

The trade fair is the leading platform for capitalising on Industry 4.0 solutions in China. It covers the entire system and comprehensive automation solutions all components. Trade fair and adjoining conference offer the perfect platform to search the right solutions for automation tasks.

www.spsinchina.com

15. - 17.03.2016
London, UK
Image Sensors Europe

Image Sensors is the key annual Image Sensors technical and business conference in Europe. Image Sensors attracts a wide range of companies from across the digital imaging supply chain.

www.image-sensors.com/about

17. - 20.03.2016
Istanbul, Turkey
WIN Eurasia Automation

The WIN Eurasia Automation gathers professionals of the industry. It is leading innovation platform of the Eurasia, bringing together latest technologies as part of the fairs in areas of Otomasyon (Industrial Automation), Electrotech (Energy, Electric and Electronic), Hydraulic & Pneumatic (Fluid Power Technologies) and Materials Handling (Transport, Storage, Handling and Logistics).

www.win-automation.com

13. - 15.04.2016
Moscow, Russia
Expo Control 2016

Expo Control, the unique and comprehensive trade show in Russia yearly demonstrates to specialists all the sidedness and variety of latest technologies and decisions for industrial and scientific quality assurance, measurement and testing. The show meets the high requirements of trade and professional visitors and offers a varied up-to-date and compact overview of products and solutions presented: from materialographic and other scientific researches to measuring and testing methods and technologies for materials, designs, complex mechanisms; from electronic testing systems to components and systems for analysis apparatus and other quality assurance of products and systems and many more.

www.expo-control.com

25. - 29.04.2016
Hanover, Germany
Hannover Messe

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www.hannovermesse.de

26. - 29.04.2016
Stuttgart, Germany
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www.control-messe.de

03. - 05.05.2016
Boston, USA
The Vision Show 2016

The Vision Show is North America's leading showcase of machine vision and imaging components and solutions. The accompanying conference features practical, real-world training that you can put into practice right away.

www.machinevisiononline.org

10. - 12.05.2016
Nuremberg, Germany
Sensor+Test

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www.sensor-test.com

07. - 09.06.2016
Frankfurt, Germany
Optatec

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www.optatec-messe.de

08. - 09.06.2016
Moscow, Russia
Vision-Russia 2016

The the only specialized machine vision event in Russia. A combination of both exposition and conference part attract integrators, engineering centres, end-users, OEM's and research institutions interested in machine vision, optical inspection and fault finding.

www.vision-russia.ru

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09. - 11.06.2016
Edinburgh, UK
14th EMVA Business Conference 2016

Every year EMVA brings together business leaders and technical experts within the machine vision industry from Europe and around the world with a well-balanced mixture of high-level speeches and networking opportunities. The conference covers the different business segments Management, Technology, Innovation, Markets and Marketing and it offers outstanding networking opportunities. We go the step further by providing the necessary organisation and infrastructure for pre-scheduled bilateral meetings matching the individual attendee's needs.

www.emva.org

21. - 24.06.2016
Munich, Germany
Automatica

Automatica is the leading trade fair for industrial automation and mechatronics. It is a four-day show that will give you a comprehensive look at the latest developments in automation.

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www.automatica-munich.com

27. - 30.09.2016
Essen, Germany
Security Essen

Security Essen is the world's most important trade fair for security and fire prevention.

From fire prevention and cyber security and CCTV to the protection of outdoor areas: experts, decision-makers and buyers from this industry will be meeting in Essen.

www.security-essen.de

10. - 13.10.2016
Stuttgart, Germany
Motek

The international trade fair Motek is the world's leading event in the fields of production and assembly automation, feed technology and material flow, streamlining through handling technology, and industrial handling. As such, Motek is the only trade fair to clearly focus on all aspects of mechanical engineering and automation and on the presentation of entire process chains.

www.motek-messe.de

17. - 19.10.2016
Beijing, China
Vision China 2016

Vision China 2016 will serve as an efficient platform for showcasing latest machine vision products and technology as well as conducting trade exchanges.

www.visionchinashow.net

08. - 10.11.2016
Stuttgart, Germany
Vision

Vision is the world's leading trade fair for machine vision. The who's who in the machine vision industry meets in Stuttgart and presents an incomparable range of products and services: from sensors to processors, from cables to cameras, from software to illumination systems. However, complete machine vision systems and very specific applications for many different industries are exhibited – from mechanical engineering and the automotive industry through to the medical technology industry and many, many more industries besides.

www.vision-messe.de

12. - 13.11.2016
Coventry, UK
Photonex 2016

Photonex is the UK's largest showcase event dedicated to photonics and light technologies. The event provides experts and professionals in the field the unique opportunity to meet with suppliers across the spectrum of photonics.

www.photonex.org

22. - 24.11.2016
Nuremberg, Germany
SPS/IPC/Drives

SPS IPC Drives is the exhibition for electric automation technology. It covers all components down to complete systems and integrated automation solutions. The trade fair is the platform for comprehensive information on products, innovations and current trends within the electric automation industry.

www.mesago.de/en/SPS/home.htm

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Allied Vision supplies camera technology and image capture solutions for industrial inspection, science, medicine, traffic monitoring and many more application areas in digital imaging. With a deep understanding of customers' needs, Allied Vision 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.

First-class Quality, First-class Service – Worldwide

Allied Vision's highly qualified engineers and technicians design and manufacture our digital cameras according to the highest quality standards in the industry. Our quality management system is not only ISO 9001 certified, it also complies with the ISO 13485 standard for medical equipment.

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About IDS Imaging Development Systems

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IDS Imaging Development Systems GmbH is a leading manufacturer of digital industrial cameras with USB 2.0, USB 3.0 or GigE interfaces. Boasting more than a decade of experience in the development and sale of USB 2.0 cameras, IDS belongs to the pioneers in the development of digital USB 3.0 industrial cameras today. The visionary thinking and modular concepts enable customers to develop innovative and individual applications.

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Founded in 1997, IDS nowadays has subsidiaries in Japan and USA as well as further offices in Europe and Asia. We focus on the company's sustainable expansion, supported by our distribution partners in almost every country in Europe and Asia.

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About OPT Machine Vision

OPT Machine Vision Co., Ltd is a global supplier of machine vision components with a focus on LED illuminations, lenses and accessories. Manufacturers and system integrators in more than 20 countries worldwide solve their Machine Vision tasks with the results of the passionate work of our 350 employees.

Since 2005 our company is driven by the mission to develop LED lights and optics, which are easy to integrate and allow for new technical solutions to modern challenges of automated manufacturing. Additionally, our goal is to make these solutions so cost-effective, that their application uplifts the quality, productivity and at the same time the overall efficiency of production lines.

With more than 130 highly educated engineers, many of them experienced in industrial imaging for decades, we optimize our products by the selection of the components from high quality suppliers, by the mechanical, optical and electronic design for high performance and longevity as well as by production processes utilizing high-end assembly and test equipment plus western quality management standards. Still, thanks to our production site in the Dongguan province of China, we are able to offer our products and services at very attractive list prices for the domestic and international market.

This allows us to provide 38 different product lines of LED lights and lenses with over 100,000 product variants, which fulfill the great majority of application requirements in the areas automation, traffic, aviation, medical and food. With our dedicated engineering team for customizations, we are happy to answer specific needs with tailored hardware, firmware and software solutions in short time frames and at attractive costs.

Our experienced team of 35 sales engineers in China, Taiwan, California and Germany provide personal consulting services before and after your decision for OPT Machine Vision products.

Thanks to short lead times, the very broad portfolio of high quality Machine Vision components, our consistent customer orientation and optimal cost-effectiveness, we are proud to build on the trust of more than 10,000 customers worldwide, among them several Global Fortune 500 enterprises. For example, it is very likely that the high-end smartphone in your hand has been inspected with solutions by OPT Machine Vision.

Please follow us here and stay up to date on new products, technological advances and general news from the area of our core expertise: Machine Vision.

Management
Sean Wang, Marketing Director Europe

Foundation
2005

Staff
350

Products
Lighting Equipment, Optics

Applications
Character Recognition, High Speed Analysis, Inspection Piece Parts, Inspection Webbed Material, Material Testing, Metrology 2D, Metrology 3D, Part Identifikation, Particle Analysis, Robot Vision 2D, Robot Vision 3D, Symbol Recognition

Industries served
Automotive and Suppliers, Electronics/Semiconductors, Energy/Water/Solar Technology, Foodstuffs /Beverages, Mechanical Engineering/Line Building, Medical Technology, Metal, Packaging, Pharmaceuticals/Cosmetics/Chemicals, Traffic/Logistics

Platforms supported
OEM, Distribution

Associations
AIA, EMVA

Regions served
Asia, China, Europe, Japan, North America

OPT® Machine Vision

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Germany
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Fax: +49 711 490 664 69
Mobile: +49 162 9665238
optde1@optmv.com
www.optmv.net

See our ad on Outside Back Cover

About Point Grey

Point Grey is a global leader in the design and manufacturing of innovative, high-performance digital cameras for industrial, scientific, medical, traffic, and security applications. We offer a unique and comprehensive portfolio of USB3 Vision, GigE Vision, FireWire, and USB 2.0 products known for their outstanding quality, ease of use, and unbeatable price-performance.

Innovation

At Point Grey, "innovation" is more than a tagline; it's a way of life. The synergies of a broad range of hardware, software and mechanical engineering skills under one roof allows Point Grey to successfully bring many innovative and groundbreaking products to market. This drive for innovation has led to many industry firsts, including the world's first and smallest 1394b digital camera, the world's smallest GigE camera, and the world's first USB 3.0 camera.

Product Excellence

All design, prototyping, manufacturing, testing, and packaging is done out of a state-of-the-art facility in Vancouver, Canada. These facilities include dedicated SMT lines, AOI and X-ray machines, industrial clean room, and automated test stations. The "Seal of Quality" label on each camera cannot be printed until the camera has been 100 % inspected and tested. This rigorous quality testing, together with hassle-free product warranties, ensures that customers can rely on Point Grey cameras for their demanding vision applications.

Customer Care

To ensure our customers achieve maximum value from their camera systems, Point Grey offers world-class support on installation, configuration, customization and trouble shooting. Our Customer Support program includes quick response email and phone support, online user manuals, online knowledge base articles and regular firmware updates.

End-to-End Imaging

A critical component of any vision system is the speed and reliability of the imaging pipeline, from light hitting the image sensor to data reaching the host system. Point Grey Research has taken ownership of the entire pipeline, and over the last 15 years has created a diverse portfolio of digital cameras, peripheral components, and software.

- Designed and manufactured in Canada
- Global distribution network
- 250 staff worlwide
- ISO 9001:2008 registered company

Office(s)
Headquarter
Point Grey Research, Inc.
12051 Riverside Way
V6W 1K7 Richmond, BC

Canada
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Fax: +1 604 242 9938
info@ptgrey.com

Management
Michael Gibbons
Vice President of Sales & Marketing

Joerg Clement
Regional Manager EMEA

Foundation
1997

Staff
250

Products
Cameras

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

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

Associations
AIA, EMVA, JIIA, Other

Regions served
Asia, Europe, Latin America, North America and ROW (Rest of the World)

POINT GREY
Innovation in Imaging

See our ad on page 5

Point Grey Research GmbH
Schwieberdinger Straße 60
71636 Ludwigsburg
Germany
Tel.: 49 7141 488817 0
Fax: 49 7141 488817 99
eu-sales@ptgrey.com
www.ptgrey.com

HN

About Chromasens

Machine Vision 'Made in Germany'

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 development, project management, application creation, system integration and professional services. The company's know-how is further enhanced through continuous dialogue with universities and research centres.The intensive cooperation with the customer in the form of comprehensive support throughout every project phase is a cornerstone of the company philosophy. Development and manufacturing takes place at the company's facility in Constance.

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Max-Stromeyer-Straße 116
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Germany
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Fax: +49 7531 876 303
info@chromasens.de
www.chromasens.com

KN

Management
Martin Hund, CEO
Markus Schnitzlein, CEO

Foundation
2004

Staff
55

Products
Cameras, Lighting equipment

Applications
Archiving, Character Recognition, Digitalization, High Speed Analysis, Inspection Piece Parts and Web Material, Material testing, Color Measurement, Metrology 2D and 3D, Particle Analysis

Industries served
Automotive, Electronics, Semiconductor, Food, Ceramics, Medical, Metal, Packaging, Paper, Wood, Pharma, Cosmetics, Plastics, Machine Vision, Traffic, Logistics, Printing, Other

Associations
AIA, EMVA, VDMA

Regions served
Asia and Pacific Rim, Europe, North America, Latin America, national, ROW

About Framos

We Enable Imaging

Teaching Machines to see!

Since 1981 Framos is a leading technology provider in industrial, scientific and medical image processing. We enable manufacturers, system integrators and researchers to benefit from imaging technologies.

Our team offers a fully comprehensive portfolio of imaging components, technical consulting and support. Thanks to many years of experience in the industry we offer engineering services for custom camera development as well as complete turn-key-solutions.

- **Imaging Components** – Key components to build a camera or an entire imaging system
- **Engineering** – Hard- and software development and camera adaptions tailored to your needs
- **Imaging Systems** – Customised imaging systems based on 3D technology
- **Global Services** – Technical consulting, global sourcing and extensive logistics

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Germany
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Fax: +49 89 710667 66
info@framos.com
www.framos.com

M

See our ad on page 65

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Framos France, France
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info@framos.fr

Framos Technologies Inc., Canada
Tel.: +1 61208 1082
info@framos.ca

Management
Dr. Andreas Franz, CEO

Foundation 1981

Staff 85

Products
Cameras, Camera Modules, Smart Cameras, Vision Sensors, Frame Grabber, Interface Boards, Converter, Cables, Lighting, Optics, Software

Applications
Character Recognition, High Speed Analysis, Inspection Piece Parts, Metrology 2D, Metrology 3D, Part Identification, Robot Vision 2D, Robot Vision 3D, Symbol Recognition

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

Associations
AIA, bayme vbm, BVL, EMVA, VDMA, HybridSens, Forum MedTech Pharma, SpectroNet, SwissT.net, Sensors Bavaria

Regions served
International

Companies represented
Sony, OnSemi, Smartek Vision, Lumenera, Datalogic, Emergent Vision, Toshiba Teli, Hitachi, PrimeTech, Pacific Corporation, Videology, SVS Vistek, Euresys, Sunex, Fujinon, Schott Moritex, Schneider Kreuznach, AlysiumTech, Pentax Ricoh, Tamron, Vision+Control, Falcon, Effilux, Norpix, VisionTools, Trimble

About Fujifilm Europe

Fujinon Lenses from Fujifilm
The extensive product range of Fujinon branded CCTV and Machine Vision lenses from Fujifilm features the appropriate solution for almost every application. The Japanese manufacturer offers a continuously growing product range of high resolution megapixel Zoom and Varifocal lenses for security applications in HD quality.

Lenses for Machine Vision are precise optics with minimized distortion for optimal image qualtiy – even in harsh environments. Special lenses round off the wide product range, like infrared-coated lenses for Day&Night, lenses for 3CCD cameras or blindspot-free 360° panomorph lenses. You no longer miss anything with Fujinon lenses.

Management
Takaaki Kurose, Kenji Sukeno (Managing Directors)

Foundation
1934

Staff
500

Products
Optics

Applications
Character Recognition, Digitalization, High Speed Analysis, Inspection Piece Parts, Metrology 2D, Metrology 3D, Part Identifikation, Robot Vision 2D, Robot Vision 3D, Symbol Recognition

Industries served
Precision Engineering/Optics/Machine Vision

Regions served
Central Europe, EMEA, Europe, national

FUJIFILM

See our ad on page 43

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40549 Düsseldorf
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Fax: +49 211 5089 8900
cctv@fujifilm.eu
www.fujifilm.eu/fujinon

D

About the JAI Group

JAI is a global manufacturer of digital cameras for machine vision, traffic imaging, surveillance, life science and scientific research.

Besides a broad range of leading-edge 1-CCD and 1-CMOS interlaced/progressive area scan cameras, JAI is a leading provider of multi-imager cameras incorporating advanced prism-block technology, including 3-CCD RGB area scan cameras, 2-CCD multi-spectral/HDR cameras plus a complete family of 3-CMOS/4-CCD/4-CMOS line scan cameras. JAI's product program includes cameras for visible, UV, NIR and SWIR imaging with GigE Vision, Camera Link, USB 3.0 Vision and CoaXPress interfaces.

See the possibilities

See our ad on page 15

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Fax: +45 4491 3252
camerasales.emea@jai.com
www.jai.com

DK

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camerasales.emea@jai.com

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JAI Ltd. China
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camerasales.apac@jai.com

Management
Jørgen Andersen, CEO
Masao Watabe, President of JAI Ltd. Japan
Flemming W. Maunsbach, Group VP of Finance
Henriette H. Olsen, Group VP of Marketing
Yosuke Muraki, Group VP of R&D

Foundation
1963

Staff
101–250

Products
Cameras, Interfaces/Cables/Peripherals, Software, Other

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

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, Precision Engineering/Optics/Machine Vision, Traffic/Logistics, Other

Associations
AIA, EMVA, JIIA

Regions served
APAC, EMEA, The Americas

About Lumenera Corporation

Lumenera Corporation, headquartered in Ottawa, Canada, is a leading developer and manufacturer of high performance digital cameras and custom/OEM solutions. Lumenera's solutions provide unique combinations of speed, resolution and sensitivity to satsify the most demanding digital imaging requirements. The company's core competencies include digital bus technologies such as USB 3.0, USB 2.0, HDMI, Ethernet and GigE as well as the integration of CMOS and CCD sensors. Lumenera leverages its leading edge technology to provide customized design services, continuous innovation and licensing options to OEM partners. Lumenera customers achieve the benefit of superior price-to-performance rations and faster time to market with the company's commitment to high quality, cost effective product solutions.

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Management
Huw Leahy, President
Stephan Shaw, Vice President Finance
Dany Longval, Vice President Worldwide Sales
Rob Sample, Vice President Manufacturing
Nick Bulitka, Chief Technology Officer
Eric Ramsden, Director of Product Management
Skylar Davies, Marketing Manager

Foundation
2002

Staff
60

Products
Cameras, Software, Interfaces/Cables/Peripherals, Consulting, R&D

Applications
Inspection Piece Parts, Inspection webbed Material, Robot Vision 2D, Robot Vision 3D, Character Recognition, Symbol Recognition, Part Identifikation, Metrology 2D, Metrology 3D, High Speed Analysis, Particle Analysis, Material Testing, Digitalzaization

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

Platforms supported
Windows XP, Vista, Win 7, Win 8, Linux OS - both 32 and 64 versions; Most X86 and some ARM solutions

Associations
EMVA, AIA

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

About Matrix Vision

Matrix Vision is a leading manufacturer and offers a large spectrum of digital cameras – from USB, GigE with Power over Ethernet to smart cameras with integrated easy configurable machine vision software. A wide range of USB 3.0 cameras with CMOS sensors up to 10 megapixels are provided with the USB3 Vision Standard. Matrix Vision introduced a new, revolutionary 6D perception camera. It detects objects in space by means of motion, depth information and experience. The perception camera is ideal for palletizing, de-palletizing and pick & place applications in logistic, packaging and automotive sectors. Besides an extensive range of standard products we offer custom solutions, which provide maximum utility for users as a result of continuous development. Join our vision world and benefit from cutting-edge technologies and extensive services.

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Fax: +49 7191 9432 288
info@matrix-vision.de
www.matrix-vision.com

See our ad on page 45

S

Office(s)
Benelux
Eastern Europe
France
Italy
UK & Ireland
India

Management
Erhard Meier, CEO
Uwe Furtner, CTO
Dietmar Unser, Sales Manager
Marcus Bleise, Sales Manager International

Foundation
1986

Staff
51-100

Products
3D Cameras, Digital Cameras, Frame Grabber, Smart Cameras, USB 3.0 and GigE Cameras, Software, Vision Sensors

Applications
Digitalization, High Speed Analysis, Inspection Piece Parts, Inspection Webbed Material, Material Testing, Metrology 2D, Metrology 3D, Part Identification, Particle Analysis, Robot Vision 2D, Robot Vision 3D, Symbol Recognition, Thermography, 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
AIA, DNHK, VDMA

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

About Micro-Epsilon

Micro-Epsilon is a medium-sized family-run company which plays a leading role in measurement technology. For more than 45 years we have continuously offered reliable, high performance, unique solutions particularly when high precision measurement or 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 processes, unique know-how and a broad network of collaborative operations.

See our ad on page 3

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Königbacher Str. 15
94496 Ortenburg
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Tel.: +49 8542 168 0
Fax: +49 8542 168-90
info@micro-epsilon.com
www.micro-epsilon.com

PA

Office(s)
Micro-Epsilon UK Ltd
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info@micro-epsilon.co.uk

USA Headquarters
Tel.: +1 919 787-9707;
me-usa@micro-epsilon.com

China
Tel.: +86 10 64398934
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info@micro-epsilon.cz

France
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france@micro-epsilon.com

Switzerland
Tel.: +41 71 2500838
info@micro-epsilon.ch

Foundation
1968

Staff
800

Products
Vision Sensors/Smart Cameras, Optical Instruments, Turn-Key Sytems, 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 Optics Balzers

Optics Balzers is the innovative and independent industry partner for the development and production of coated optical components and subassemblies. The company possesses a broad and in-depth know-how in optical thin-film coating processes, complemented by sophisticated patterning, glass bonding and sealing, and further processing capabilities necessary for producing optical thin-film coated components up to optical subassemblies.

Highly experienced and skilled development and engineering teams closely collaborate with customers to develop innovative solutions meeting their requirements and design robust processes to manufacture the customer specific components. The combination of these capabilities and skills places Optics Balzers at the forefront of markets in the photonics industry such as Automotive, Biophotonics, Laser, Space & Defence, Lighting & Projection, Sensors & Imaging, and Industrial Applications.

See our ad on page 65

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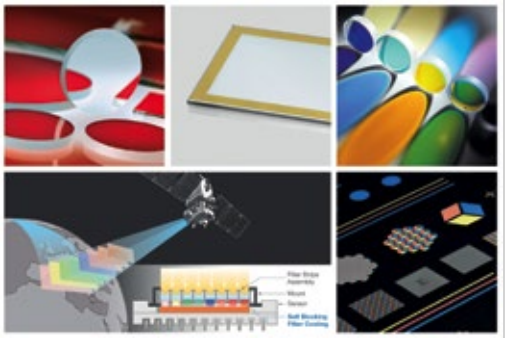
Neugrüt 35
9496 Balzers
Liechtenstein
Tel.: +423 388 9200
Fax: +423 388 9390
info@opticsbalzers.com
www.opticsbalzers.com

FL



Offices
Optics Balzers Jena GmbH
Otto-Eppenstein-Straße 2
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France
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Switzerland, Austria
Tel.: +423 388 9216

USA
Tel.: +1 720 974 5927

Singapore
Tel.: +65 6809 5243

Foundation
2009 / 1946

Staff
101-250

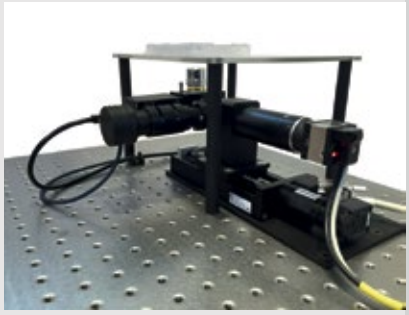
Products
Optics, Optical Coatings, Optical Components

Industries served
Automotive, Medical Technology, Packaging, Precision Engineering/Optics/Machine Vision, Others

Applications
Others

Regions served
Asia, EMEA, Europe, North America

About Opto



Opto develops and manufactures customized, optoelectronic modules, optical components and systems for the industrial and biomedical markets. With its own facilities in Germany, France, the UK and Asia, Opto is a globally recognised solution provider, able to support customers from around the globe.

For more than three decades, Opto GmbH has established itself as a leading International supplier of machine vision solutions based on industrialized microscopy and machine vision. Through its deep application knowledge, Opto provides its clients with special optomechanical solutions that are reduced to the essentials of the application and perfectly cost optimised.

See our ad on page 47

Opto GmbH
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M

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Opto UK Ltd.
Tel.: +44 1925 606 595
info@opto-uk.com

Management
Markus Riedi, CEO
Klaus Flügel, CTO
Martin Price, Int. Sales and Business Development
Michael Niemeyer, German Sales

Foundation
1980

Staff
11-50

Products
Optical Instruments, Optics, Custom OEM Modules & Systems, Image Analysis Systems, Machine Vision Objectives, R&D, Vision Sensors

Applications
High Speed Analysis, Inspection Piece Parts, Material Testing, Metrology 2D/3D, Particle Analysis

Industries served
Automotive and Suppliers, Electronics/Semiconductors, Energy/Water/Solar Technology, Glass/Ceramics, Mechanical Engineering/Line Building, Medical Technology, Metal, Packaging, Paper/Wood, Precision Engineering/Optics/Machine Vision, Biotechnology, Security, Aerospace

Associations
AIA, EMVA, VDMA, bayern photonics

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

About Ricoh Imaging in Europe

Ricoh Imaging Deutschland-GmbH, formerly known as Pentax Imaging, is proud of the respect its products have gained over 50 years of high quality manufacturing. All lenses are developed with the focus on quality and performance and designed for a long service-free life.

This is achieved by the combination of modern technology and precision manufacturing. In 2012 Ricoh introduced MV cameras. The new range of cameras are extremely compact, robust and suitable for almost all industrial image processing applications.

Since 2013 Ricoh has been working on high technology "Special Camera Systems." The new Extended Depth of Field System is only one example. In 2014 Ricoh will show many more new and interesting innovations including lenses, intelligent cameras and equipment.

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HH

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iosd@eu.ricoh-imaging.com

Management (EMEA)
Thomas Feichtner

Foundation
1962

Staff
11-50

Products
Cameras, Equipment, Filters, Optics, Special Camera Systems

Regions served
EMEA

About Jos. Schneider Optische Werke

Jos. Schneider Optische Werke GmbH is a worldwide recognised manufacturer of high-performance lenses and filters as well as optical and mechanical components for industrial applications.

With excellent optical and mechanical properties, Schneider-Kreuznach products suit perfectly to industrial demands. The standard product range includes:

- C-Mount lenses (Compact)
- Unifoc lenses (V-Mount, Macro)
- Lenses for large sensors up to Ø86mm
- Line-scan lenses
- Industrial filters (Band-, Long- and Shortpasses, Polarizers)

Schneider-Kreuznach also provides customised solutions for OEM projects. The understanding for the customer's demand and the in-depth expert knowledge lead to excellent opto-mechanical systems.

Schneider KREUZNACH

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industrie@schneiderkreuznach.com
www.schneiderkreuznach.com

MZ

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Fax: +852 8302 4722
info@schneider-asiapacific.com
www.schneider-asiapacific.com

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www.schneideroptics.com/industrial

Management
Dr. Josef Staub and Wolfgang Selzer, Managing Directors
Ulf Grether, Head of Sales
Dr. Ralf Mayer, Head of R&D

Foundation
1913

Staff
~600

Products
Optical Instruments, Optics, R&D, Other

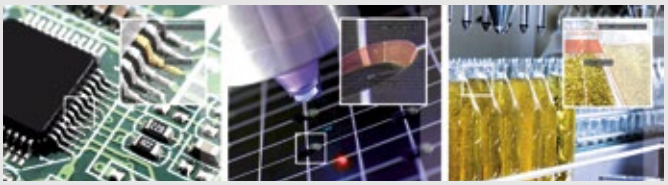
Applications
Character Recognition, Digitalization, High Speed Analysis, Inspection Piece Parts, Inspection Web Material, Material Testing, Metrology 2D/3D, Part Identification, Particle Analysis, Robot Vision 2D/3D, Security/Surveillance, Symbol Recognition

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

Regions served
Asia, Europe, North America, South/Central America

Associations
AIA, VDMA

About Stemmer Imaging



Stemmer Imaging is Europe's largest imaging technology and service provider with head office in Germany (Puchheim near Munich) and subsidiaries in many European countries. Our customers have access to a wide variety of imaging products and solutions from the world's leading manufacturers who provide cutting edge vision technology across all product segments, including Stemmer Imaging´s independent, modular programming library for imaging applications, Common Vision Blox (www.commonvisionblox.com).

This broad range of components and solutions, our experience of 40 years in imaging and a comprehensive support by a staff of more than 200 employees allows us to offer you everything you need to solve your imaging task.

Stemmer Imaging – Imaging is our passion!

STEMMER® IMAGING

See our ad on page 37

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www.stemmer-imaging.com

M

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Finland
France
Germany (Head office)
Ireland
Poland
Sweden
Switzerland
The Netherlands
United Kingdom

Additional served countries:
Austria, Estonia, Iceland, Latvia, Liechtenstein, Lithuana, Luxembourg, Norway

Foundation
1987

Staff
> 250

Products
Accessories, Acquisition, Cabling, Cameras, Consulting, Illumination, Optics, Software, Vision Computers, Vision Systems

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

Industries served
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Associations
AIA, EMVA, UKIVA, VDMA

Regions served
Asia, Europe, North America, national

About Teledyne Dalsa

Teledyne Dalsa is a global leader in the design, development, and manufacture of digital imaging products and solutions. In addition, Teledyne Dalsa specializes in the engineering and fabrication of semiconductor components and services. The company employs approximately 1,000 people world-wide with sales offices across North America, Europe and Asia which support an international distribution network serving more than 40 countries.

Today, Teledyne Dalsa image sensors, cameras, frame grabbers and software are used in thousands of automated inspection systems around the world and across multiple industries.

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Fax: +49 89 89 54 57 346
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Management
Edwin Roks, President,
Teledyne Dalsa,
Vice President,
Teledyne Technologies, Inc.

Foundation
1980

Staff
501–1000

Products
Cameras, Factory Floor Automation Solutions, Frame Grabber, Processors, Software, Vision Sensors/Smart Cameras/ Embedded Systems, X-ray Equipment

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

Industries served
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Platforms supported
Windows/Linux/DSP/ARM/FPGA/ x86/32 & 64 bit

Associations
AIA, EMVA, JIIA

Regions served
Asia Pacific, Europe, North America, South America

About Vieworks

Founded in 1999, Vieworks has been actively serving digital imaging markets with its distinguished vision technologies.

Vieworks' innovative Machine Vision cameras are adopted and used in a variety of industrial applications including but not limited to industrial automation and inspection, aerial imaging, surveillance, science and research. Manufacturers of machines, equipments and solutions, who are market-leading customers in different industries, incorporate our products into their systems, and acknowledge the performance of our products.

Our industrial camera solutions are designed and built to provide customers with higher resolution, wider dynamic range and faster frame speed. This is realized by accumulated know-hows and technologies such as precision opto-mechanics technology and imaging signal processing technology as well as electronics design technology and software development technology.

As a fast growing technology company with long-term growth prospects globally, we endeavor endlessly to realize image beyond imagination by advancing vision technologies, innovating work process as well as focusing on the needs of our customers. Vieworks is an ISO-9001 certified company.

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Management
Hooshik Kim, CEO
Jiyong Park, Sales Manager

Foundation
1999

Staff
200

Products
Cameras, Optics, X-ray Equipment

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

Industries served
Automotive and Suppliers, Electronics/Semiconductors, Energy/Water/Solar Technology, Flat panel display, 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

Associations
AIA, EMVA, JIIA

Regions served
Asia and Pacific Rim, Europe, North America

About Vision Components

Vision Components GmbH is a leading supplier in the field of machine vision and develops and distributes intelligent, network-compatible real-time Smart Cameras which are able to operate without a PC. These embedded vision solutions can be easily integrated into almost any application. Customers can choose between models with ARM processors with freely programmable FPGA and VC Linux OS or DSP-based models with the proprietary VCRT OS. The product portfolio includes Smart Cameras with/without protective housing, single board cameras, vision sensors. Providing custom-tailored OEM solutions for all kinds of applications are the core of the more than 20 years experience in machine vision and imaging.

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Vision Components GmbH
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Sedeco Vision Components
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info@sedeco.nl

Nexxion Science & Technologies
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Foundation
1996

Staff
12

Products
Cameras, Smart Cameras/ Embedded Systems, Vision Sensors, other

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

Industries served
Automotive and Suppliers, Electronics/Semiconductors, Energy/Water/Solar Technology, Entertainment + Sports, Foodstuffs/Beverages, Glass/Ceramics, ITS, Mechanical Engineering/ Line Building, Medical Technology, Metal, Packaging, Paper/ Wood, Pharmaceuticals/Cosmetics/Chemicals, Plastics, Precision Engineering/Optics/Machine Vision, Traffic/Logistics, Non-industrial Applications

Platforms supported
ARM, DSP, PC platforms (Windows, Linux, RTOS)

Associations
AIA, JIIA, OSADL, SIA, SPIE, VDMA

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

About Ximea

Ximea designs and produces leading-edge, high-performance cameras with the lowest power consumption and the smallest footprint as well as highly optimized camera and imaging solutions for volume OEM applications.

The camera designs are based on powerful, flexible technology platforms that include an application programming interface (API) for more than 30 of the most common Vision libraries as well as compliance with industry standards like USB3 Vision. xiAPI supports Windows, Linux and OS X operating systems.

Customers can further adapt Ximea cameras by selecting specialized optics and data interfaces, while OEM customers can leverage Ximea's Custom Engineering services. This is how Ximea differentiates from the competition.

To ensure that Ximea offers the highest quality cameras at the best price, Ximea owns and operates its own engineering and production facilities in Bratislava, Slovakia. This allows us to design your solution with only the best components and to guarantee the optimal compromise between performance and cost with short lead times.

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Fax: +49 2501 964 555 99
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Management
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Max Larin

Foundation
2010 / 1992

Staff
11–50

Products
Hyperspectral-, X-Ray- and Subminiature Cameras, OEM Cameras, USB-, PCIe-, Firewire- and Thunderbold-Cameras

Applications
Astronomy, Character Recognition, Digitalization, Metrology

2D and 3D, Microscopy, Part Identification, Particle Analysis, Robot Vision 2D and 3D, Symbol Recognition, Others

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

Associations
AIA, EMVA, VDMA, Other

Regions served
worldwide

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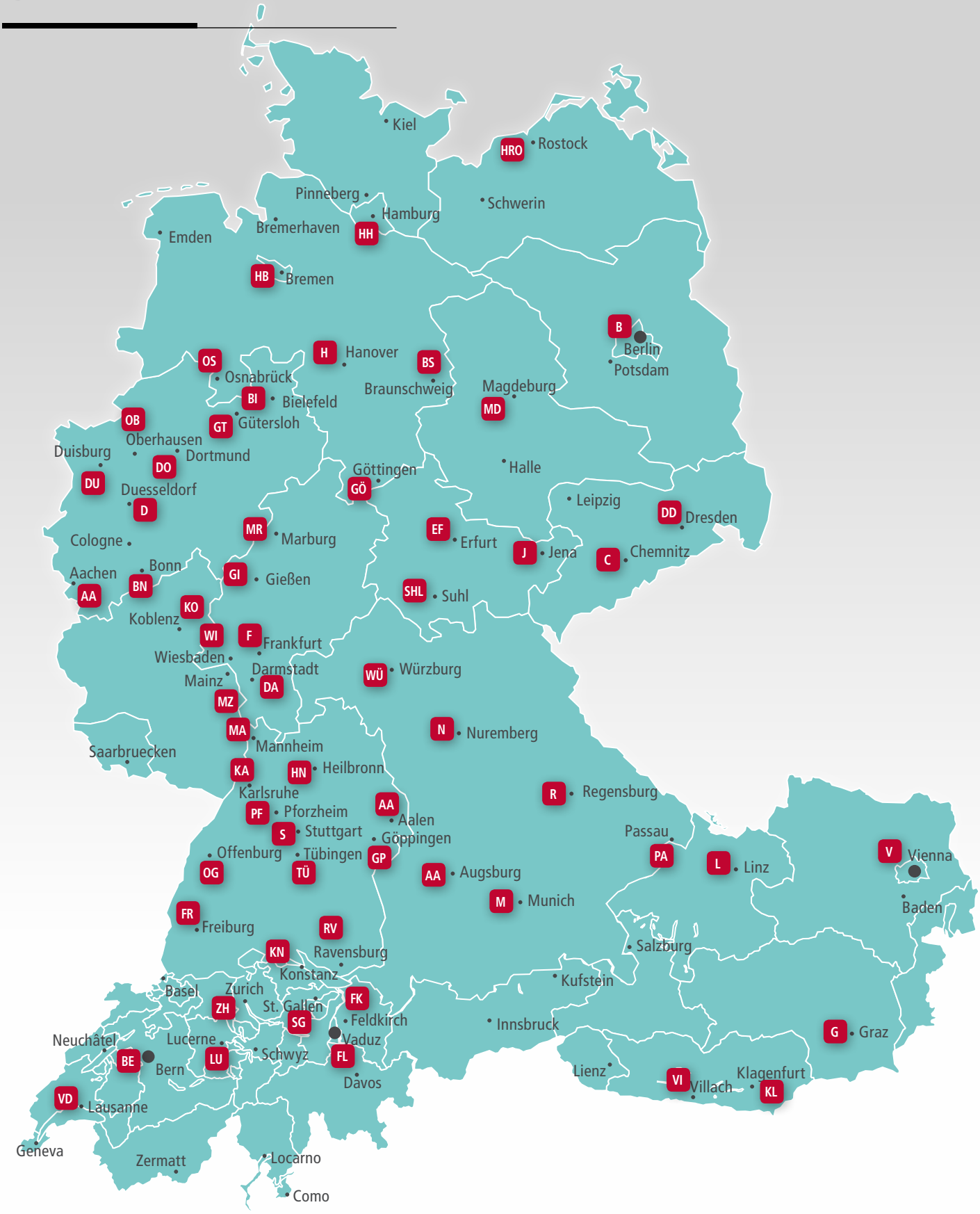

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Distributor

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Adlink Technology provides a wide range of embedded computing products and services to the test & measurement, automation & process control, gaming, communications, medical, network security, and transportation industries. Adlink products include ETX and COM Express modules for industrial computing, AdvancedTCA, CompactPCI, PCI Express-based data acquisition and I/O and vision and motion control. Adlink provides customization and system integration services, and maintains low manufacturing costs.

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Producer

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Distributor

AHF Analysentechnik AG
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Machine Builder/OEM

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Integrator

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Distributor

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Solution Provider

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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. For even more specific requirements, our engineers can design camera modifications or even develop a custom camera to your needs. 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.

Allied Vision Technologies GmbH
Taschenweg 2a, 07646 Stadtroda, Germany, Tel.: +49 36428 677 0, info@alliedvision.com, www.alliedvision.com — J

Distributor, Producer, Solution Provider

Allsens Messtechnik
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Solution Provider

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Consultant

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Producer, Solution Provider

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Producer

AutoVimation Peter Neuhaus
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Producer

B & M Optik GmbH
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Producer

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Producer, Solution Provider

BAP Image Systems GmbH
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N

Producer

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HH

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WI

Integrator, Solution Provider

Bi-Ber GmbH & Co. Engineering KG
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info@bilderkennung.de, www.bilderkennung.de

B

Producer

The performance spectrum of Büchner Lichtsysteme GmbH extends from the concept via the development to the production of LED lighting systems. As a committed manufacturer we respond flexibly to the corresponding customer requirements. For instance, this includes the modification of our standard products as well as the development and manufacture according to customer-specific requirements.

IMAGING LIGHT TECHNOLOGY
BÜCHNER

Büchner Lichtsysteme GmbH
Uzstr. 2
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Germany
Tel.: +49 8293 909 112
Fax: +49 8293 909 111
info@buechner-lichtsysteme.de
www.buechner-lichtsysteme.de

AA

Producer

Carl Zeiss AG
Carl-Zeiss-Str. 22, 73446 Oberkochen, Germany, Tel.: +49 7364 20 5590,
lenses4industry@zeiss.de, www.zeiss.com/lenses4industry

AA

Solution Provider

HGV supplies scaleable turnkey machine vision solutions for all kinds of quality inspection: Flexible measurement systems (FMS) with robots, in-line-measurement, process control, robot guiding, assembly control, part handling (pick & place), surface inspection, sorting & identification.

Carl Zeiss Automated Inspection GmbH & Co. KG
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ai.metrology.de@zeiss.com, www.zeiss-ai.de

HN

Distributor, Producer

CBC (Europe) GmbH
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info@cbc-europe.com, www.cbc-europe.com

D

Solution Provider

Ceres Vision GmbH
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info@ceresvision.de, www.ceresvision.de

BI

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 development, project management, application creation, system integration and professional services. The company's know-how is further enhanced through continuous dialogue with universities and research centres. .

Chromasens GmbH
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info@chromasens.de, www.chromasens.de

KN

Integrator

CLK
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OB

Producer

Cognex 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.

Cognex Germany Inc.
Emmy-Noether-Str. 11, 76131 Karlsruhe, Germany, Tel.: +49 721 6639 0,
info@cognex.de, www.cognex.com

KA

Distributor, Integrator, Producer, Solution Provider

Compar industrial machine vision systems are the solution wherever quality control is required, zero-defects strategies are applied, or value for money and high productivity are needed. The main functions are inspection, identification, and robot guidance. Customers in all industries - however, especially in the automotive, watch-making, packaging, printing, electronics, medical and pharmaceutical sector - appreciate our innovative package solutions based on a modular system.Aspiring to be your competent system provider for machine vision and robotics, we offer solutions that include smart cameras, computer-based vision systems, accurate robots, and even integrated test installations that allow for highly flexible handling. It is our interdisciplinary and interconnected engineering knowledge about automation, image processing and robotics that enables us to create efficient systems that convince and delight our clients.

compar
vision systems & robotics

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Fax: +41 55 416 10 61
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www.compar.ch

ZH

Machine Builder/OEM

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info@confovis.com, www.confovis.com

J

Distributor

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M

Consultant, Integrator, Producer, Solution Provider

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HB

Producer, Solution Provider

Creaform Deutschland GmbH · Meisenweg 37,
70771 Leinfelden-Echterdingen, Germany, Tel.: +49 711 1856 8030,
germany@creaform3d.com, www.creaform3d.com

ES

Consultant, Distributor, Integrator, Machine Builder/OEM

Credimex AG
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Producer

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Friedrich-Ebert-Ufer 30, 51143 Köln, Germany, Tel.: +49 2203 9590030, info@cspservices.de, www.cspservices.de — K

Integrator, Solution Provider

CTMV GmbH & Co. KG
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Research Facility, Solution Provider

CTR - Carinthian Tech Research AG
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Producer

Datasensor GmbH
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Integrator

De Man Industrie-Automation GmbH
Industriestr. 18, 33829 Borgholzhausen, Germany, Tel.: +49 5425 9497 0, info@deman.de, www.deman.de — H

Solution Provider

DHS Dietermann & Heuser Solution GmbH
Herborner Str. 50, 35753 Greifenstein-Beilstein, Germany, Tel.: +49 2779 9120 0, vertrieb@dhssolution.com, www.dhssolution.com — GI

Producer

Docter Optics GmbH
Mittelweg 29, 07806 Neustadt an der Orla, Germany, Tel.: +49 36481 27 0, info@docteroptics.com, www.docteroptics.com — J

Machine Builder/OEM

Dr. Heinrich Schneider Messtechnik GmbH
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Machine Builder/OEM

Dr. Noll Optical Measurement GmbH
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Solution Provider

Dr. Schwab Inspection Technology GmbH
Industriestr. 9, 86551 Aichach, Germany, Tel.: +49 8251 9008 0, info@schwabinspection.com, www.schwabinspection.com — A

Solution Provider

Dutch Vision Systems
Am Lehmberg 2, 16928 Pritzwalk, Germany, Tel.: +49 33986 614 0, info@dvs-vision.de, www.dvs-vision.de — B

Distributor

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KA

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OS

Solution Provider

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PF

Producer

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K

Producer

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MZ

Distributor, Producer, Solution Provider

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GP

Producer

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FK

Producer

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D

Solution Provider

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Distributor

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K

Producer, Solution Provider

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M

Solution Provider

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V

Producer

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KA

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M

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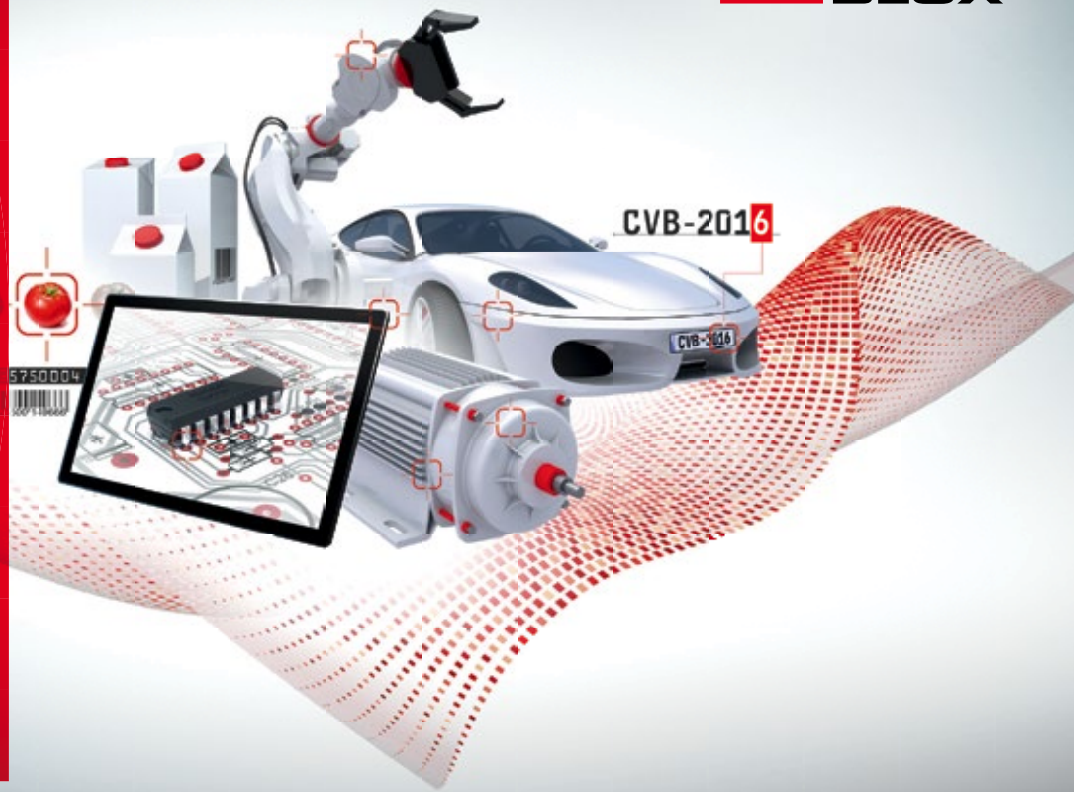

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Machine Builder/OEM

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info@optosurf.com, www.optosurf.com

KA

Producer

Optris GmbH
Ferdinand-Buisson-Str. 14, 13127 Berlin, Germany, Tel.: +49 30 500 197 0,
sales@optris.com, www.optris.com

B

Producer

Optronis develops, manufactures and distributes streak cameras and high-speed video cameras for scientific and industrial applications. Our high-end cameras can be used to capture ultra-fast phenomena. Our primary goal: to provide our customers with innovative solutions for fast optical measurements.

Optronis GmbH
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info@optronis.com, www.optronis.com

OG

Producer

Otto Vision Technology GmbH
Im Steinfeld 3, 07751 Jena, Germany, Tel.: +49 3641 67150,
info@otto-jena.de, www.otto-jena.de

J

Producer, Solution Provider

Panasonic Electric Works Europe AG
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info.peweu@eu.panasonic.com, www.panasonic-electric-works.de

M

Producer

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info.medicalvision@eu.panasonic.com, business.panasonic.co.uk/imv

HH

Machine Builder/OEM

Paul Leibinger GmbH
Daimlerstr. 14, 78532 Tuttlingen, Germany, Tel.: +49 7461 9286 0,
sales@leibinger-group.com, www.leibinger-group.com

KN

Producer

In 1987, PCO AG was founded with the objective to develop and to produce specialized fast and sensitive video camera systems, mainly for scientific applications. Meanwhile the product range of PCO cameras covers digital camera systems with high dynamic range, high resolution, high speed and low noise, which are sold in the scientific and industrial market all over the world. Currently PCO is one of the leading manufacturers of scientific cameras. Worldwide representatives and our own sales department and technical support assure that we keep in touch with our customers.

PCO AG
Donaupark 11, 93309 Kelheim, Germany, Tel.: +49 9441 2005 0,
info@pco.de, www.pco.de

R

Solution Provider

Pharmacontrol Electronic GmbH
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info@pharmacontrol.de, www.pharmacontrol.de

DA

Producer

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sales@photonfocus.com, www.photonfocus.com

ZH

Producer, Solution Provider

Phytec Messtechnik GmbH
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info@phytec.de, www.phytec.de

MZ

Integrator, Solution Provider

Pi4 Robotics GmbH
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sales@pi4.de, www.pi4.de

B

Producer

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info@piezojena.com, www.piezosystem.com

J

Producer

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WÜ

Consultant, Distributor, Producer, Solution Provider

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sales@plasmo.eu, www.plasmo.eu

V

Producer

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info@pog.eu, www.pog.eu

J

Producer

Point Grey is a global leader in the design and manufacturing of innovative, high-performance cameras for industrial, scientific, medical, traffic, and security applications. We offer a unique and comprehensive portfolio of USB3 Vision, GigE Vision, FireWire, USB 2.0 and Camera Link products known for their outstanding quality, ease of use, and unbeatable price-performance. Founded in January of 1997, the company's approach to product pricing, quality control, and customer service has attracted thousands of customers worldwide, and its organic growth through product sales has enabled the company to expand significantly without any outside investment. Point Grey currently employs more than 250 people worldwide and has offices in Canada, Germany, Japan, China, and Italy. The company partners with a network of distributors in Japan, Korea, China, Singapore, Taiwan, and the United Kingdom.

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71636 Ludwigsburg
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S

Distributor

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bv@polytec.de, www.polytec.de

KA

Producer

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Frank.Eckardt@prodesign-europe.com, www.prodesign-europe.com

M

Producer, Research Facility, Solution Provider

Profactor GmbH
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maria.fuehrlinger@profactor.at, www.profactor.at

L

Producer, Solution Provider

Proxitronic Industries AG
Robert-Bosch-Str. 32b, 64625 Bensheim, Germany, Tel.: +49 6251 1703 0,
imaging@proxitronic.com, www.proxitronic.com

DA

Producer

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79111 Freiburg
Germany
Tel.: +49 761 4514 792
Fax: +49 761 4514 70
sales@pyramid.de
www.pyramid.de

FR

Producer

Qioptiq designs and manufactures photonic products and solutions that serve a wide range of markets and applications in the areas of industrial manufacturing, medical and life sciences, research and development, defense and aerospace. The company is known for its high-quality standard components, products and instruments, its custom modules and assemblies, its leading-edge innovation, its precision manufacturing and its responsive global resourcing.

Qioptiq Photonics GmbH & Co. KG
Königsallee 23, 37081 Göttingen, Germany, Tel.: +49 551 6935 0,
sales@qioptiq.de, www.qioptiq.com

GÖ

Solution Provider

Quiss AG
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info@quiss.com, www.quiss.com

M

Distributor

Rauscher GmbH is a leading distributor for all imaging components, including software, area- and linescan cameras, frame grabbers, image-processing boards, smart cameras, embedded systems, optics, lighting and accessories.Rauscher GmbH combines distribution with high engineering competence. This enables all customers to efficiently develop and market their vision system.

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M

Integrator, Machine Builder/OEM, Solution Provider

RBC robotics
Werner von Siemens Str. 3, 65520 Bad Camberg, Germany,
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info@rheintacho.de, www.rheintacho.com

FB

Producer

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iosd@eu.ricoh-imaging.com, www.ricoh-mv-security.eu

HH

Integrator

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RV

Solution Provider

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KA

Distributor

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F

Producer

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HH

Distributor, Integrator, Solution Provider

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C

Producer, Solution Provider

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www.schoelly-microoptics.de

GI

Producer

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lightingimaging@schott.com, www.schott.com/lightingimaging

MZ

Machine Builder/OEM, Solution Provider

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F

Producer

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FR

Producer

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email@sensor-to-image.de, www.sensor-to-image.de

A

Integrator, Solution Provider

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N

Machine Builder/OEM

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B

Producer

Shape Drive GmbH
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M

Producer

Sharp Microelectronics Europe
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info.sme@sharp.eu, www.sharpsme.com

HH

Producer

Sick is one of the world leading suppliers of Industrial Sensors and Safety solutions. Sick provides industrial vision cameras for factory and logistics automation. The product line includes Vision Sensors, Smart Cameras, Code readers, Accessories and Cameras for high speed 3D Machine Vision. Target customers are Machine Builders, System Integrators and End Users.

Sick AG
Erwin-Sick-Str. 1, 79183 Waldkirch, Germany, Tel.: +49 7681 202 0,
bildverarbeitung@sick.de, www.sick.com

FR

Producer

Distinct coding of products or parts of products is a key requirement of modern production processes. With our stationary and handheld code reading systems we offer just the right products for reading and verification of 1-D and 2-D codes, such as bar codes and data matrix codes, as well as optical character recognition (OCR). This allows tracking and tracing of production batches along the entire production process and beyond. Application-specific machine vision tasks – such as the automatic parts recognition by means of shapes, dimensions, samples, outlines, or colors – can be optimally solved with our vision sensors.

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info.rfid@siemens.com, www.siemens.de/ident

N

Solution Provider

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sales@signum-vision.de, www.signum-vision.de

M

Producer

Silicon Software is one of the international technology leaders with innovative product lines for industrial applications in Machine Vision and service provider for customized adaptations. The company produces off-the-shelf products as well as customized OEM solutions.

Base products are the series of intelligent image acquisition and processing boards, supporting PCI, PCI Express with Camera Link, PoCL, PoCL lite, GigE Vision as well as CoaXPress and Camera Link HS. .

Silicon Software GmbH
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silicon-software.de, www.silicon-software.com

MA

Producer

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Solution Provider

Simon IBV GmbH
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Producer, Solution Provider

Slomotec, Dr. Frank Gabler
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Tel.: +49 6056 9836 674, info@slomotec.de, www.slomotec.de — F

Producer, Solution Provider

Smartray GmbH
BGM-Finsterwalder-Ring 12, 82515 Wolfratshausen, Germany,
Tel.: +49 8171 9683 400, info@smartray.de, www.smartray.de — M

Integrator, Solution Provider

SmartSurv Vision Systems GmbH
Malmsheimer Str. 7, 71063 Sindelfingen, Germany, Tel.: +49 7031 3041800,
info@smartsurv.de, www.smartsurv.de — S

Producer

Steinbichler Optotechnik GmbH
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Tel.: +49 8035 8704 0, sales@steinbichler.de, www.steinbichler.de — M

Distributor, Producer

Stemmer Imaging AG
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info@stemmer-imaging.ch, www.stemmer-imaging.ch — ZH

Machine Builder/OEM

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reicherter@stiefelmayer.de, www.stiefelmayer.de — GP

Integrator

Stöhrmann Systemtechnik
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info@stoehrmann.de, www.stoehrmann.de — OG

Producer

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Consultant

Strategema Frank Olschewski Consulting
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info@stra-te-gema.com, www.stra-te-gema.com — HP

Producer

Streppel Glasfaser-Optik oHG
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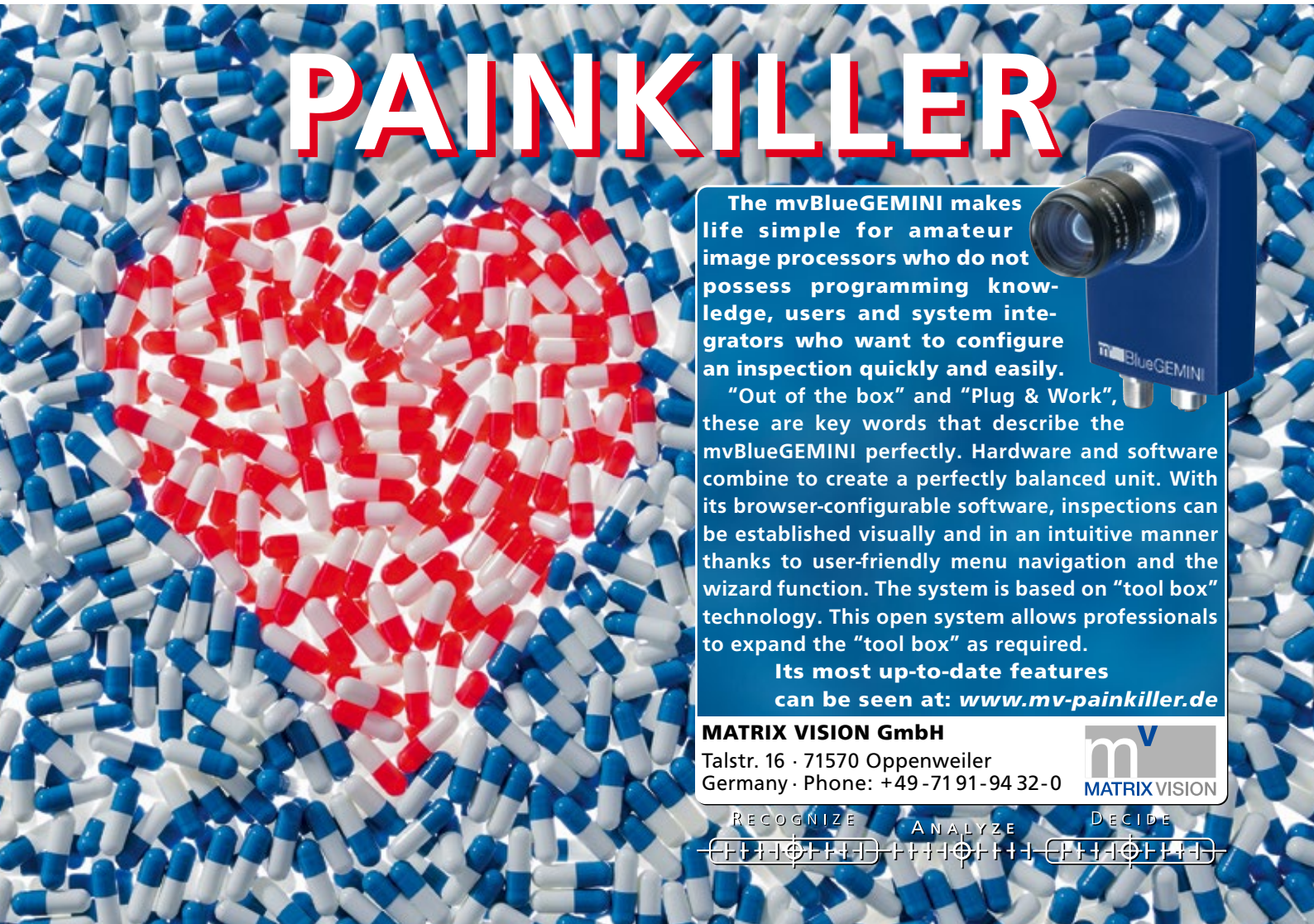
info@streppel.de, www.streppel.de — GL

Producer

STZ Qualitaetssicherung & Bildverarbeitung
Werner-von-Siemens-Str. 12, 98693 Ilmenau, Germany,
Tel.: +49 3677 208066, stz@stz-ilmenau.de, www.stz-ilmenau.de — SHL



Producer

SVS-Vistek is one of Germany's most innovative manufacturers of industrial cameras, a reliable supplier of components for machine vision purposes, and a specialist for highly integrated imaging systems and solutions. Founded in 1987, SVS-Vistek has more than 20 years of comprehensive expertise in the machine vision market. Since 1999 the company has been developing and manufacturing its own cameras. To this day, 100% of SVS Vistek's cameras are designed and manufactured near Munich in Seefeld, Germany.

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info@svs-vistek.com, www.svs-vistek.com

M

Producer

SynView GmbH
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info@synview.com, www.synview.com

F

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K

Producer

Teledyne Dalsa
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sales.europe@teledynedalsa.com, www.teledynedalsa.com/mv

M

Solution Provider

Tema
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info@temavisio.com, www.temavisio.com

KO

Producer

The Imaging Source Europe GmbH
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HB

Producer, Solution Provider

Thermosensorik GmbH
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info@thermosensorik.de, www.thermosensorik.de

N

Producer

Tichawa Vision GmbH
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A

Producer

TriDiCam GmbH
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Jochen.Noell@tridicam.de, www.TriDiCam.de

DU

Machine Builder/OEM

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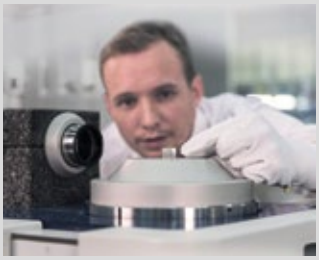

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HH

Producer, Solution Provider

unique vision is a spin-off of ibea (limited liability company) and is a system manufacturer. unique vision likes to continue the tradition of compact instruments of ibea, develops and brings these systems to perfection as in hardware and software. The goal is a smart system with every necessary element, modular and high-duty with a high ease of use without any limitations.

unique vision

Unique Vision GmbH
Kleine Bahnstr. 8
22525 Hamburg
Germany
Tel.: +49 40 27 86 48 50
Fax: +49 40 27 86 48 52
info@unique-vision.net
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HH

Producer

VDS Vosskühler GmbH
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OS

Producer

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info@vialux.de, www.vialux.de

C

Distributor

Videor E. Hartig GmbH
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F

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ViDi
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Tel.: +41 26 653 72 30, info@vidi-systems.com, www.vidi-systems.com

CH

Solution Provider

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KN

Machine Builder/OEM, Solution Provider

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post@visimation.de, www.visimation.de

TÜ

Consultant, Other

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www.vision-academy.org

EF

Producer

Vision Components GmbH
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sales@vision-components.com, www.vision-components.com

KA

Producer

As a technology leader, our company develops, produces and sells an optimally attuned modular system worldwide. It ranges from complex image processing systems to individual high performance LED lighting and precision optics. To master challenging image processing tasks that would overtax standard components, we offer our customers tailor-made image capturing and processing solutions. Leading OEMs and system integrators have banked on state-of-the-art design by Vision & Control for almost 20 years.

VISION & CONTROL

Vision & Control GmbH
Mittelbergstr. 16
98527 Suhl
Germany
Tel.: +49 3681 79 74 0
Fax: +49 3681 79 74 22
www.vision-control.com

SHL

Producer

Vision Engineering is a global leading-edge manufacturer of unique ergonomic stereo microscopes and non-contact measuring systems. Since its formation in 1958, Vision Engineering has become one of the most innovative and dynamic microscope manufacturers, with a global distribution network. The product range includes solutions for almost every inspection and measurement application. Innovative and superior ergonomic designs lead to performance and productivity gains. Quality is the goal! For us and our customers as well. The eyepieceless technology which is implemented in our systems allows a nearly fatigue-free operation with the microscope. More comfort is not possible …

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Vision Engineering Ltd.
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M

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M

Producer

Vision Research designs and manufactures high-speed digital imaging systems used in applications including defense, automotive, engineering, science, medical research, industrial manufacturing, sports, and digital cinematography for television and movie production. Marketed under the Phantom brand, Vision Research digital high-speed cameras add a new dimension to the sense of sight, allowing users to see details of an event when it's too fast to see, and too important not to.

VISION RESEARCH
AMETEK
MATERIALS ANALYSIS DIVISION

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KA

Solution Provider

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info@vision-tools.com, www.vision-tools.com

MA

Consultant

Vision Ventures is an independent, internationally operating boutique M&A advisory that focuses on SMEs active in machine vision and optical technologies. Our services cover strategy consulting, identification and improvement of value drivers – especially in preparation of company transactions -, market-based enterprise valuation and the end-to-end management of sell-side and buy-side M&A. For investors we also provide expert opinions on enterprise value, business plan and market environment.

Vision Ventures GmbH & Co. KG
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DA

Producer

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GÖ

Integrator, Solution Provider

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S

Distributor

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M

Producer, Solution Provider

Since 1984 machine vision specialist Vitronic in Wiesbaden, Germany aims to contribute to the success of its customers. From qualitative surface inspections to three-dimensional weld seam inspections and 3D Robot Vision, the specialist Vitronic assists in optimizing production processes. All inspection solutions are individually tailored to the customers' needs. Hardware and software naturally originate from one source, the highest service quality is ensured. Vitronic is active in various industries, among them automotive, medical and pharmaceuticals, packaging and photovoltaics. Due to its pioneering efforts and permanent investments in research and development, Vitronic is one of the leading machine vision companies worldwide.

VITRONIC
the machine vision people

Vitronic Dr.-Ing. Stein Bildverarbeitungssysteme GmbH
Hasengartenstr. 14
65189 Wiesbaden
Germany
Tel.: +49 611 7152 0
Fax: +49 611 7152 133
sales@vitronic.com
www.vitronic.com

WI

Distributor, Integrator, Producer, Solution Provider

viZaar AG
Hechinger Str. 152, 72461 Albstadt, Germany, Tel.: +49 7432 98375 0, info@vizaar.de, www.vizaar.de

TÜ

Solution Provider

VMT Vision Machine Technic Bildverarbeitungssysteme GmbH
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info@vmt-gmbh.com, www.vmt-gmbh.com

MA

Producer

Volpi AG
Wiesenstr. 33, 8952 Schlieren, Switzerland, Tel.: +41 4473 243 43,
mail@volpi.ch, www.volpi.ch

CH

Producer

VRmagic offers a wide range of components for industrial image processing. The product portfolio extends from intelligent cameras with Linux operating system through multi-sensor cameras with up to four synchronized remote sensors to USB cameras with small dimensions. The portfolio includes cameras with various CCD and CMOS sensors with rolling or global shutter, and with resolutions from VGA to 4.2 megapixels. The range of products is completed by analog-digital converters and 3D area sensors.

VRmagic

VRmagic GmbH
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68165 Mannheim
Germany
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Fax: +49 621 400 416 99
info.imaging@vrmagic.com
www.vrmagic-imaging.com

MA

Integrator, Solution Provider

Weber Systemtechnik
Hans-Sachs-Str. 10, 35576 Wetzlar, Germany, Tel.: +49 6441 37804 0,
info@wesys.de, www.wesys.de

GI

LED lighting made in Germany
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BÜCHNER
www.buechner-lichtsysteme.de/inspect

Lichtleiter- und LED- Beleuchtungen für optische Mess- und Prüfsysteme
D-90584 bei Nürnberg
Faseroptik
Faseroptik Henning GmbH
kontakt@faseroptik-henning.de

Distributor, Integrator, Solution Provider

Weiss Imaging and Solutions GmbH
Neufeldstr. 10, 85232 Bergkirchen/Günding, Germany,
Tel.: +49 8131 3798068, info@weiss-imaging.eu, www.weiss-imaging.eu
M

Producer

Wenglor Sensoric GmbH
Wenglor Str. 3, 88069 Tettnang, Germany, Tel.: +49 7542 5399 0,
info@wenglor.com, www.wenglor.com
KN

Machine Builder/OEM, Solution Provider

Wenzel Group GmbH & Co. KG
Werner-Wenzel-Str., 97859 Wiesthal, Germany, Tel.: +49 6020 201 0,
info@wenzel-cmm.com, www.wenzel-cmm.com
WÜ

Producer

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mail@werth.de, www.werth.de
GI

Solution Provider

Wickon Hightech GmbH
Grieboer Dorfstr. 16B, 06886 Luth. Wittenberg, Germany,
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MD

Solution Provider

Wolf Systeme AG
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info@wolfsysteme.de, www.wolfsysteme.de
PF

Producer

Ximea strives to deliver extremely compact cameras and imaging systems with the highest levels of processing power, maximum compatibility and extraordinary support at competitive prices. The scope covers industrial cameras for motion control, assembly, robotics, and industrial inspection and process control, as well as scientific cameras for life and material sciences, security, law enforcement and defense applications.

Ximea GmbH
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info@ximea.com, www.ximea.com
MS

Producer

X-Rite Europe GmbH
Althardstr. 70, 8105 Regensdorf, Switzerland, Tel.: +41 44 842 24 00,
info-germany@xrite.com, www.xrite.com
ON

Producer

Xapt GmbH
Neidenburger Str. 10, 45897 Gelsenkirchen, Germany,
Tel.: +40 209 883070 0, info@xapt-gmbh.de, www.xapt-gmbh.de
DO

Producer

Since 1985, Z-Laser is a leading manufacturer of laser systems for positioning, machine vision, measurement equipment, medical and more. Laser modules and fiber-coupled solutions provide the highest requirements in projection accuracy that is demanded in many applications. Micro- or macrolines, various projection patterns such as multi-lines, dot matrices, and circles are available for a variety of wavelengths and output powers. Customized laser solutions for OEM applications are also one of Z-Laser's specialties.

Z-LASER
Intelligent Solutions in Light

Z-Laser Optoelektronik GmbH
Merzhauserstr. 134
79100 Freiburg
Germany
Tel.: +49 761 29644 44
Fax: +49 761 29644 55
info@z-laser.de
www.z-laser.com
FR

Integrator, Solution Provider

Zertrox GmbH & Co. KG
Martin-Luther-Straße 3, 52062 Aachen, Germany, Tel.: +49 241 9977 164,
info@zertrox.de, www.zertrox.de
AC

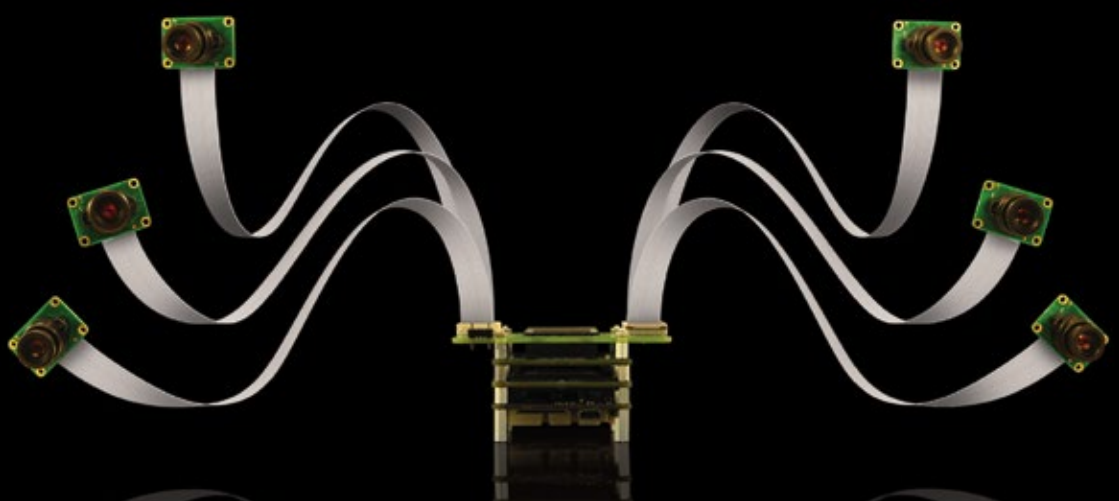
Machine Builder/OEM, Producer, Solution Provider

Ziemann & Urban GmbH
Am Bleichbach 28, 85452 Moosinning, Germany, Tel.: +49 8123 936880,
info@ziemann-urban.de, www.ziemann-urban.de
ED

Producer

ZygoLOT GmbH
Im Tiefen See 58, 64293 Darmstadt, Germany, Tel.: +49 6151 8806 552,
info@zygolot.de, www.zygolot.de
DA

D3
Intelligent
Camera



Freely programmable | Linux OS | 1 GHz ARM® Cortex™-A8 | Floating point unit | 700 MHz DSP C674x™ | 2 GB RAM | 32 GB Flash
Common Vision Blox Embedded | EyeVision | HALCON Embedded | OpenCV | Mono™-compatible .NET interface

www.vrmagic-imaging.com

VRmagic

Europe

Reykjavik
ICELAND
Trondheim
NORWAY
NO
Oslo
Edinburgh
Belfast
Dublin
IRELAND
UK
Manchester
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UNITED KINGDOM
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DK
Soeborg
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Vilnius
Minsk
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PL
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Katowice
Prague
Krakow
UKRAINE
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MOLDOVA
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ROMANIA
Zagreb
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HERZEGOVINA
Zagreb
CRO
SERBIA
Sarajevo
BULGARIA
Podgorica
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MONTENEGRO
Skopje
MACEDONIA
Tirana
Thessaloniki
Istanbul
ALBANIA
GREECE
TURKEY
GRE
TR
Athens

Producer

Active Silicon specialises in the design, manufacture and supply of digital imaging products and custom vision systems. Frame grabbers include the Phoenix, LFG and Snapper boards in PCI Express, COM Express, PCI, PMC, cPCI and PCI/104-Express form factors with support for Windows, DOS, Mac, OS X, Linux, QNX and VxWorks platforms. These provide acquisition solutions for a wide range of applications supporting analogue, CoaXPress, LVDS, HD-SDI and Camera Link (including PoCL) cameras.

Active Silicon Ltd.
Pinewood Mews, Bond Close
SL0 0NA Iver
United Kingdom
Tel.: +44 1753 650600
Fax: +44 1753 651661
info@activesilicon.com
www.activesilicon.com

UK

Producer

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ul. Bojkowska 37A, 44-100 Gliwice, Poland, Tel.: +48 461 23 30,
info@adaptive-vision.com, www.adaptive-vision.com

PL

Producer

Adimec designs and manufactures high-performance industrial cameras for equipment manufacturers worldwide with demanding machine vision, medical, or military applications whose goal is to be a product leader in their market. The Netherlands-based Holding company has business offices in Europe, the United States, Japan, and Singapore. Adimec cameras use high quality CCD and CMOS sensor technologies and support a range of interfaces such as CameraLink, GigE, CoaXPress, LVDS, HD-SDI, DVI or custom.

Adimec Advanced Image Systems, B.V.
Luchthavenweg 91, 5657 EA Eindhoven, Netherlands,
Tel.: +31 40 2353900, SalesEU@adimec.com, www.adimec.com

NL

Producer

Alditech
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Tel.: +7 4967 736220, web@alditech.ru, www.alditech.ru

RUS

Solution Provider

Alliance Vision
7 avenue du Meyrol, 26270 Montelimar, France,
Tel.: +33 4 75 53 14 00, infos@alliancevision.com, www.alliancevision.com

F

Producer

AnaFocus 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 applications.Additionally, AnaFocus develops and commercializes a catalogue of standard products consisting of high-performance CMOS single-chip solutions for imaging and vision.

AnaFocus
Avda. Isaac Newton, 4, 7th floor, attic, 41092 Seville, Spain,
Tel.: +34 954 081273, rafael.romay@anafocus.com, www.anafocus.com

E

Producer

Andor Technology
7 Millenium Way, BT12 7AL Belfast, United Kingdom,
Tel.: +800 9027 0899, marketing@andor.com, www.andor.com

UK

Distributor

By combining innovative technology and customer-oriented service, Baumer ranks among the leading manufacturers of digital cameras and vision sensors. Modern image processing applications face the challenge of successfully completing complex inspection tasks at top speed. Baumer products are specially developed for demanding applications with high performance and quality requirements. With long-time stable reliability, versatility and easy integration, they convince customers all over the world.

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Via Resistenza 1
20090 Assago MI
Italy
Tel.: +39 02 4570 6065
Fax: +39 02 4570 6211
sales.it@baumer.com
www.baumer.com

I

Producer

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2 Boulton Road, RG2 0NH Reading, United Kingdom,
Tel.: +44 118 975 1355, sales@bentham.co.uk, www.bentham.co.uk

UK

Producer

CCS Lighting Solution is the world's highest standard of LED lighting technology. Let our expertise work for you! CCS provides high-added-value LED lighting that makes optimum use of our unique control, focus and heat dissipation technology. Lighting from CCS is widely used in machine vision, microscopy and Bio-medical. The key to success in these markets lies in the lighting technology. CCS proposes the most suitable solutions from a rich standard and a vast custom product lineup.

CCS Europe NV
Bergensesteenweg 423 B13
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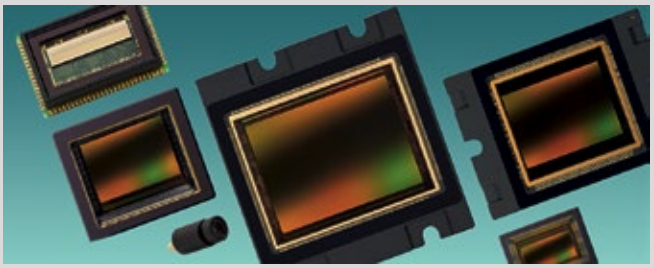
Belgium
Tel.: +32 2 333 00 80
Fax: +32 2 333 00 81
info@ccseu.com
www.ccs-grp.com

BE

Producer



Cmosis is a pure-play supplier of standard, off-the-shelf as well as custom area and line scan CMOS image sensors. Cmosis imagers feature global and rolling shutter, low noise, high dynamic range and high frame rates through high-speed on-chip ADC and digital interfaces. Cmosis image sensors serve a broad range of applications for diverse markets including machine vision, medical, broadcast, traffic, scientific and photography imaging. The Cmosis offer further includes miniature camera modules for endoscopy-like applications.

CMOSIS
www.cmosis.com
BE

Producer

Crometic
Via Julius-Durst Str. 98, 39042 Bressanone/Brixen, Italy,
Tel.: +39 0472 273 730, info@crometic.com, www.crometic.com
I

Distributor

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UK

Distributor, Producer, Solution Provider

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United Kingdom, Tel.: +44 1359 244870, info@deben.co.uk, www.deben.co.uk
UK

Solution Provider

Digital Surf
6 rue Lavoisier, 5000 Besançon, France, Tel.: +33 3 81 50 48 00,
contact@digitalsurf.fr, www.digitalsurf.com
F

Producer

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.

e2v
Avenue de Rochepleine, BP123 3852 Saint Egreve Cedex, France,
Tel.: +33 47658 3000, enquiries@e2v.com, www.e2v.com
F

Integrator

E3Tam A.S. Automated Test Solutions
B.Bulv 177d2, 34394 Istanbul, Turkey,
Tel.: +90 212 2752280, inform@e3tam.com, www.e3tam.com
TR

Producer

Optical Innovation for LED IlluminationEffilux is a worldwide supplier of LED lighting devices for the machine vision market. Effilux offer includes a wide range of standard patented products for line scan inspection, 3D triangulation, 3D stereovision, accurate optical sorting and others. Additionally, Effilux uses its expertise in optical design to create innovative custom solutions meeting OEM and End Users specific requirements.

Effilux
Bat 503 - Centre Scientifique, 91400 Orsay, France,
Tel.: +33 1 69 35 87 56, sales@effilux.fr, www.effilux.fr
F

Association

EMVA – European Machine Vision Association
Gran Vía de Carles III 84, 8028 Barcelona, Spain, Tel.: +34 931 80 70 60,
info@emva.org, www.emva.org
E

Producer

Euresys is a leading manufacturer and supplier of image acquisition and processing components for machine vision and video surveillance applications, with more than 25 years of imaging expertise, a worldwide customer base and patented technology. Euresys offers a wide range of frame grabbers for digital Camera Link, CoaXPress and analog image acquisition, Image analysis software tools and innovative IP video encoders for multiple HD-SDI / HDcctv cameras as well as high-quality video capture and compression cards.

Euresys S.A.
Avenue du Pré-Aily, 14, 4031 Angleur, Belgium,
Tel.: +32 4 367 72 88, sales@euresys.com, www.euresys.com
B

Distributor

EyeC-UK Limited · 6 Dauntless Road, RG7 3NZ Reading, Berkshire,
United Kingdom, Tel.: +44 118 983 3347, info@eyec-ukandireland.co.uk,
www.eyec-ukandireland.co.uk
UK

Solution Provider

FDS Research, d.o.o.
Suhadolcânova 28, 1231 Ljubljana, Slovenia, Tel.: +386 1 589 75 81,
info@fdsresearch.si, www.fdsresearch.si
SLO

Machine Builder/OEM

Flir Advanced Thermal Solutions
19, bld Bidault, 77183 Croissy-Beaubourg, France,
Tel.: +33 1 41 33 97 97, info@flir.com, www.flir.com
F

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
F

Producer

Global Laser Ltd
Units 9-10 Roseheyworth Business Park, NP131SP Abertillery, Gwent, United Kingdom,
Tel.: +44 1495 212213, sales@globallasertech.com, www.globallasertech.com
UK

Solution Provider

Hexagon Manufacturing Intelligence · World Headquarters Office, Cedar House,
78 Portsmouth Road, KT11 1AN Cobham, Surrey, United Kingdom, Tel.: +44 20
7068 6540, marketing@hexagonmetrology.com, www.hexagonmetrology.com
UK

Solution Provider

Icos Vision Systems
Industriepark Haasrode zone 1 Esperantolaan 8, 3001 Heverlee, Belgium,
Tel.: +32 16 398 220, info@icos.be, www.icos.be
BE

Distributor

Infaimon, S.L.
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Tel.: +34 93 252 5757, infaimon@infaimon.com, www.infaimon.com
E

Producer, Solution Provider

InRay Solutions Ltd.
125 Tzarigradsko shosse blvd., block 2, room 510, 1113 Sofia, Bulgaria,
Tel.: +359 2 971 5751, inrays@inrays.com, www.inrays.com
BG

Machine Builder/OEM, Solution Provider

Irida Labs
Patras Science Park, 26504 Rio, Achaia, Greece,
Tel.: +30 261 0911568, info@iridalabs.gr, www.iridalabs.gr
GRE

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-CCD and 1-CMOS interlaced/progressive area scan cameras, JAI is a leading provider of multi-imager cameras incorporating advanced prism-block technology, including 3-CCD RGB area scan cameras, 2-CCD multi-spectral/HDR cameras plus a complete family of 3-CMOS/4-CCD/4-CMOS line scan cameras. JAI's product program includes cameras for visible, UV, NIR and SWIR imaging with GigE Vision, Camera Link, USB 3.0 Vision and CoaXPress interfaces.

See the possibilities

JAI A/S
Valby Torvegade 17, 1st floor
2500 Valby
Denmark
Tel.: +45 4457 8888
Fax: +45 4491 3252
camerasales.emea@jai.com
www.jai.com

DK

Integrator, Solution Provider

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

E

Solution Provider

JLI vision a/s
Poppelgaardvej 7-9, 2860 Soeborg, Denmark,
Tel.: +45 39 66 08 09, info@jli.dk, www.jli.dk

DK

Distributor

Lambda Photometrics Ltd.
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Tel.: +44 1582 764334, adrian@lambdaphoto.co.uk, www.lambdaphoto.co.uk

UK

Producer

Lambert Instruments
Oosteinde 16, 9301 ZP Roden, Netherlands, Tel.: +31 50 5018461,
info@lambert-instruments.com, www.lambert-instruments.com

NL

Producer

Laser Quantum Ltd
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UK

Producer

LAT elektronik AB
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Tel.: +46 87049225, info@latab.se, www.latab.se

SE

Producer

LED Microsensor NT
Kurchatova, 10A, 1N, 194223 Saint-Petersburg, Russia,
Tel.: +78 126330635, info@lmsnt.com, www.lmsnt.com

RUS

Producer

Microscan is a global leader in technology for precision data acquisition and control solutions serving a wide range of automation and OEM applications. Founded in 1982, Microscan has a strong history of technology innovation that includes the invention of the first laser diode barcode scanner and the 2D symbology, Data Matrix. Today, Microscan remains a technology leader in automatic identification and machine vision with extensive solutions for ID tracking, traceability and inspection ranging from basic barcode reading up to complex machine vision inspection, identification, and measurement. As an ISO 9001:2008 certified company recognized for quality leadership in the U.S., Microscan is known and trusted by customers worldwide as a provider of quality, high precision products. Microscan is a Spectris company.

MICROSCAN

Microscan Systems B.V.
(European Headquarters)
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Netherlands
Tel.: +31 172 423360
Fax: +31 172 423366
emea@microscan.com
www.microscan.com

NL

Distributor

Molenaar Optics VOF
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info@molenaar-optics.nl, www.molenaar-optics.com

NL

Producer

New Imaging Technologies (NIT) · 1-4 Impasse de la noisette,
Bat D-1er étage, 91370 Verrières le Buisson, France, Tel.: +33 1 64 47 88 58,
info@new-imaging-technologies.com, www.new-imaging-technologies.com

F

Producer

NTI
32 Route de Seichebrieres, 45530 Vitry aux Loges, France,
Tel.: +33 238 593 051, info@nti-measure.com, www.nti-measure.com

F

Machine Builder/OEM

odos imaging is technology focused company manufacturing systems for the capture of high-resolution, time-of-flight, 3D video. Current systems have resolution exceeding 1.3 megapixels. High frame rates and performance in strong ambient light are key features, allowing operation both indoors and outside. GigEVision interfaces enable rapid deployment and simple multi-system connectivity. We offer both complete systems and component technologies for use in a wide variety of demanding applications.

Odos Imaging Ltd.
SMC, The Kings Buildings, EH3 9JF Edinburgh, Lothian, United Kingdom,
Tel.: +44 131 650 7756, info@odos-imaging.com, www.odos-imaging.com

UK

Producer, Solution Provider

Omron Europe B.V
Wegalaan 67-69, 2132 JD Hoofddorp, Netherlands, Tel.: +31 23 568 13 00,
info@eu.omron.com, www.industrial.omron.eu

NL

Producer

Opto Engineering Srl
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info@opto-engineering.com, www.opto-engineering.com

I

Integrator, Solution Provider

OptoFidelity Oy
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FI

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

OptoMotive, Mechatronics Ltd.
V Murglah 229, 1000 Ljubljana, Slovenia,
Tel.: +386 1 42 92 914, info@optomotive.si, www.optomotive.si

SLO

Distributor, Integrator, Solution Provider

PCS Industries Ltd
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UK

Solution Provider

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Tel.: +45 36 46 0111, industrial@phaseone.com, industrial.phaseone.com
DK

Producer

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F

Distributor, Producer

Photonic Products Ltd · Sparrow Lane, CM22 7BA Hatfield Broad Oak,
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www.photonic-products.com
UK

Producer

Photron (Europe) Ltd
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UK

Distributor

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UK

Solution Provider

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F

Distributor

Pro-Lite Technology Ltd
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UK

Solution Provider

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UK

Producer, Solution Provider

Sensofar
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E

Producer

SKS Vision Systems OY
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FI

Producer

Smartek Vision
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Tel.: +385 40 493 800, info@smartekvision.com, www.smartekvision.com
CRO

Producer

Sony Europe's Image Sensing Solutions division has an in-depth range of industry leading analogue and digital component cameras and image sensing products. Sony ISS continues to expand its popular IEEE1394b camera series with his first CMOS Global Shutter industrial Camera: the revolutionary XCD-MV6 punches way above its weight, which is just 37 g. Less than two-thirds the size of the cubic, the new Micro Camera is a marvel of miniaturization and perfect for machine downsizing.A lightweight camera that performs like a heavyweight at unbeatable cost.

Sony Europe Limited
The Heights, Brooklands, KT13 0XW Weybridge, Surrey, United Kingdom,
Tel.: +33 1 55 90 35 12, zone@eu.sony.com, www.pro.sony.eu/vision
UK

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Tel.: +31 73 5131 188, sales@spccompany.nl, www.spccompany.nl
NL

Distributor

Special Application Products Ltd
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Tel.: +44 1473 327 732, sales@sapltd.co.uk, www.sapltd.co.uk
UK

Distributor

Stemmer Imaging AB
Sandhamnsgatan 63C, 102 52 Stockholm, Sweden, Tel.: +46 855511000,
michael.cohn@stemmer-imaging.se, www.stemmer-imaging.com
S

Machine Builder/OEM

STIL
595 rue Pierre Berthier - Domaine Saint Hilaire, 13855 Aix-en-Provence, France,
Tel.: +33 4 42 39 66 51, contact@stilsa.com, www.stilsa.com
F

Producer

Sundance Multiprocessor Technology Ltd
"Ciltern House", HP5 1PS Waterside, Chesham, United Kingdom,
Tel.: +44 1494 793167, DVIP@Sundance.com, www.sundance.com
UK

Producer

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Tattile S.r.L.
Via Gaetano Donizetti 1-3-5, 25030 Mairano (BS), Italy,
Tel.: +39 030 97000, sales@tattile.com, www.tattile.com
I

Producer

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

Producer

TriVision
Havnegade 23, 5000 Odense, Denmark,
Tel.: +45 28353135, korsgaard@trivision.dk, www.trivision.dk
DK

Producer

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

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
UK

Integrator, Solution Provider

Univision s.r.l.
via Appiani 3, 20038 Seregno, Italy,
Tel.: +39 0362 600201, info@univision.it, www.univision.it
I

Machine Builder/OEM

Videometer A/S
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Tel.: +45 45761077, info@videometer.com, www.videometer.com
DK

Distributor, Producer

Vision Light Tech
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NL

Distributor

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Producer, Research Facility, Solution Provider

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BE

North America

Solution Provider

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Tel.: +1 860 823 8301, sales@ab-soft.com, www.ab-soft.com
CT

Machine Builder/OEM

AGR International, Inc.
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PA

Distributor

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Tel.: +1 800 253 4107, info@alliedscientificpro.com, www.alliedscientificpro.com
QC

Producer

Allison Park Group, Inc.
4055 Alpha Drive, 15101 Allison Park, PA, USA,
Tel.: +1 412 487 8211, sales@apgvision.com, www.apgvision.com
PA

Machine Builder/OEM

Altair Industries, Inc.
217 Racquette Drive, #5, 80524 Fort Collins, CO, USA,
Tel.: +1 970 217 1623, altair.industries@comcast.net, www.altairindustriesinc.com
CO

Machine Builder/OEM

Applied Electro-Optics Inc.
10619 Senna Hills DR, 78733-5729 Austin, TX, USA,
Tel.: +1 512 6860752, sales@aeousa.com, www.aeousa.com
TX

Producer, Solution Provider

Asylum Research
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CA

Distributor

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CT

Distributor

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ON

Producer, Solution Provider

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AZ

Producer

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NY

Integrator

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Tel.: +1 603 883 7979, sales@cepoint.com, www.cepoint.com
NH

Solution Provider

Cimetrix Inc.
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UT

Producer

Coherent Canada
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QC

Research Facility, Solution Provider

Coherix, Inc.
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Tel.: +1 734 922 4073, rons@coherix.com, www.coherix.com
MI

Solution Provider

Complete Inspection Systems, Inc.
334 Fourth Avenue, 32903 Indialantic, FL, USA, Tel.: +1 321 952 2490,
gparish@autoproofpro.com, www.completeinspectionsystems.com
FL

Producer

Components Express, Inc. · 10330 Argonne Woods Drive Suite 100,
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IL

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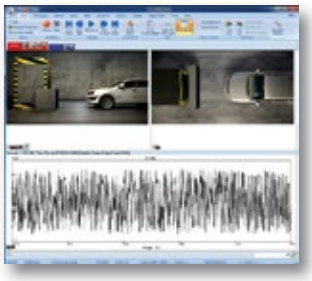

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SC

Producer

CyberOptics Semiconductor, Inc.
13555 SW Millikan Way, 97005 Beaverton, OR, USA,
Tel.: +1 503 495 2200, csinfo@cyberoptics.com, www.imagenation.com
OR

Integrator

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CA

Machine Builder/OEM

Deposition Sciences, Inc. (DSI)
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CA

Distributor

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sales@digitalwestimaging.com, www.digitaldestimaging.com
CA

Producer

Directed Perception
890C Cowan Road, 94010 Burlingame, CA, USA,
Tel.: +1 650 692 3900, sales@dperception.com, www.dperception.com
CA

Solution Provider

Dunkley International Inc.
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ekenneway@dunkleyintl.com, www.dunkleymachinevision.com
MI

Producer

EDT
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OR

Producer

Epix, Inc.
381 Lexington Drive, 60089-6934 Buffalo Grove, IL, USA,
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IL

Producer

FastVision
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NH

Producer

Fiberoptics Technology
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CT

Producer

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CA

Producer

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322 N Woodwork Ln, 60067-4933 Palatine, IL, USA,
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IL

Integrator, Solution Provider

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IL

Producer

Gevicam Inc.
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CA

Producer

Imperx
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FL

Producer

Intercon 1
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MN

Machine Builder/OEM, Producer, Solution Provider

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CT

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www.jai.com
CA

Producer

Lambda Research Corporation
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Tel.: +1 978 486 0766, sales@lambdares.com, www.lambdares.com
MA

Distributor

LDD Trading Associates, LLC
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Tel.: +1 603 732 57, sales@lddlight.com, www.LDDLIGHT.com
NH

Producer

Lincoln Laser Company
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AZ

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BC

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ON

Producer

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Tel.: +1 608 2980855, sales@madcitylabs.com, www.madcitylabs.com
WI

Producer

Matrox Imaging
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imaging.info@matrox.com, www.matroximaging.com
QC

Producer

Metaphase Technologies, Inc. · 3412 Progress Drive (unit C),
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info@metaphase-tech.com, www.metaphase-tech.com
PA

Consultant

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MI

Producer

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Tel.: +1 847 359 3550, info@midopt.com, www.midopt.com
IL

Distributor, Integrator, Solution Provider

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Tel.: +1 518 346 7136, info@msivision.com, www.msivision.com
NY

Machine Builder/OEM

Nanovea
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CA

Producer, Solution Provider

Navitar
200 Commerce Drive, 14623 Rochester, NY, USA,
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NY

Producer

Newnex Technology Corp.
3041 Olcott Street, 95054 Santa Clara, CA, USA,
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CA

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

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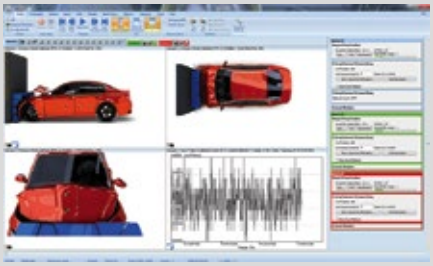
naxelrod@axelrodassociates.com, www.axelrodassociates.com
NY

Producer



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WI

Producer

Novacam Technologies Inc.
277 Lakeshore Road, Suite 04, H9S 4L2 Pointe Claire, QC, Canada,
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QC

Solution Provider

Optel Vision
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Tel.: +1 418 688 334, info@optelvision.com, www.optelvision.com
QC

Producer

Optical Research Associates
3280 E Foothill Blvd Ste 300, 91107 Pasadena, CA, USA,
Tel.: +1 626 795 9101, info@opticalres.com, www.opticalres.com
CA

Integrator

Orus Integration Inc
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Tel.: +1 450 688 3151, idicaire@orusintegration.com, orusintegration.com
QC

Distributor

Phase 1 Technology Corp.
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Tel.: +1 888 732 6474, info@phase1tech.com, www.phase1tech.com
NY

Producer

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ON

Producer

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ON

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BC

Producer

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AR

Producer

PPT Vision
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Tel.: +1 952 996 9500, sales@pptvision.com, pptvision.com
MN

Solution Provider

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Producer

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Producer

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Solution Provider

Rockwell Automation, Inc. · 1201 South Second Street,
53204-2496 Milwaukee, WI, USA, Tel.: 4143822000,
webmaster@rockwellautomation.com, /www.rockwellautomation.com — WI

Producer

SensorDesk, Inc.
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Machine Builder/OEM

Sensors Unlimited, Inc.
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Tel.: +1 609 520 0610, karen.jeffers@goodrich.com, www.sensorsinc.com — NJ

Integrator

Serview, Inc.
420D Kelley Drive, 8091 West Berlin, NJ, USA,
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Producer

Servo-Robot Inc.
1370 Hocquart, J3V 6E1 St-Bruno, QC, Canada,
Tel.: +1 450 653 7868, sales@servorobot.com, www.servorobot.com — QC

Producer

Smart Vision Lights
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www.spectrumillumination.com — MI

Solution Provider

SPG Data 3D Corporation
2151 Leonard de Vinci, J3E 1Z3 Ste-Julie, QC, Canada,
Tel.: +1 450 922 3515, sales@spgdata3d.com, www.spgdata3d.com — QC

Producer

Sunex, Inc.
5963 La Place Court, Suite 3092, 92008 Carlsbad, CA, USA,
Tel.: +1 760 602 0988, sales@sunex.com, www.sunex.com — CA

Producer

Sydor Optics
31 Jet View Drive, 14624 Rochester, NY, USA,
Tel.: +1 585 271 7300, mikev@sydor.com, www.sydor.com — NY

Consultant, Distributor, Integrator

Systematic Vision
PO Box 490, 1721 Ashland, MA, USA,
Tel.: +1 508 5321116, info@systematicvision.com, www.systematicvision.com — MA

Producer

Tekstar Optical Inc.
270 Kohr Rd., 11754-1237 Kings Park, NY, USA,
Tel.: +1 631 663 3558, info@tekstaroptical.com, www.tekstaroptical.com — NY

Producer

Teledyne Dalsa is a global leader in the design, development, and manufacture of digital imaging products and solutions. In addition, Teledyne Dalsa specializes in the engineering and fabrication of semiconductor components and services. The company employs approximately 1,000 people worldwide with sales offices across North America, Europe and Asia which support an international distribution network serving more than 40 countries.

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sales.americas@teledynedalsa.com, www.teledynedalsa.com/mv — ON

Machine Builder/OEM

Toshiba Imaging Systems Division
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vincent.giovinco@tais.toshiba.com, www.cameras.toshiba.com — CA

Solution Provider

TYZX, Inc.
3715 Haven Avenue, Suite 110, 94025 Menlo Park, CA, USA,
Tel.: +1 650.906.8434, info@tyzx.com, www.tyzx.com — CA

Distributor, Integrator

Vega Technology Group
548 Morello St SW, 44709 North Canton, OH, USA,
Tel.: +1 330 265 3142, kdbusto@vegatecgroup.com, www.vegatecgroup.com — OH

Integrator, Solution Provider

Vision Machines Inc.
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Tel.: +1 781 275 2020, info@vision-machines.com, www.vision-machines.com — MA

Producer

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Consultant

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Distributor

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Machine Builder/OEM

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New Extended Depth Field Camera

Ricoh's new Extended Depth of Field cameras have literally three times the depth of field that conventional cameras can offer at the same focal length, F-Stop and working distance without sacrificing resolution or brightness. Whilst conventional cameras require the closing of the iris in order to achieve increased depth of field and therefore darken the image, the Extended Depth of Field Camera with specialised lens and camera technology (built-in image processor) enables the brightness of the picture to be maintained. Applications like production line inspection, that used to require multiple cameras or focus re-adjustment can now be captured with a single camera. The new series of extended depth of field cameras comprises of four different GigE Vision and Camera Link models: VGA-Monochome, 2 MP-Mono-chrome, 2-MP-Color and newly 5 MP-Color. An Extended Depth of Field system consists of the camera itself, a special lens and camera firmware, which is adjusted at the factory to the lens used. In total there are lenses from 8.5 mm to 75 mm focal length available with different F-Stops.

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Active Silicon
www.activesilicon.com

Adlink
www.adlinktech.eu

Alacron
www.alacron.com

Alrad Imaging
www.alrad.co.uk

Arvoo Imaging Products
www.arvoo.com

Baumer
www.baumer.com

Beijing Microview
www.microview.com.cn

BitFlow
www.bitflow.com

Bock Optronics
www.bockoptronics.ca

China Daheng Group
www.daheng-image.com

Cognex
www.cognex.com

Computer BV
www.computerbv.de

Cosyco
www.cosyco.de

Cyberoptics Semiconductor
www.imagenation.com

Data Vision
www.datvision.com

EDT
www.edt.com

EHD imaging
www.ehd.de

Ellips
www.ellips.nl

Eltec Elektronik
www.eltec.com

Epix
www.epixinc.com

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www.euresys.com

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www.fabrimex-systems.ch

Fast
www.fast-corp.co.jp

Framos
www.framos.com

G4 Technology
www.g4.com.tw

Gidel
www.gidel.com

HaSoTec
www.hasotec.com

IDS
www.ids-imaging.com

Image House
www.imagehouse.dk

Image S
www.imagessrl.com

Imaging Solutions Group
www.isgchips.com

Imperx
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Infaimon
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IS Imaging Solutions
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Isra Vision
www.isravision.com

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Karlheinz Hinze Optoengineering
www.hinze-opto.de

Kvant
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Lambda Photometrics
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Luster LightVision Tech
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Matrix Vision
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Matrox Imaging
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Stemmer Imaging
www.stemmer-imaging.com

STZ Qualitätssicherung und Bildverarbeitung
www.stz-ilmenau.de

Sundance Multiprocessor Technology
www.sundance.com

SVS Vistek
www.svs-vistek.com

Symco
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The Imaging Source
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ViDiSys
www.vidisys.de

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Illumination & Lighting Systems

ABW
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Acal BFi Germany
www.bfioptilas.com

Advanced Illumiation
www.advancedillumination.com

AHF Analysentechnik
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www.ibe-optics.com

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Image House
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Image S
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www.latab.se

LDD Trading Associates
www.lddlight.com

LED Microsensor
www.lmsnt.com

Leitner Industrial Endoscopy
www.leitner-efer.de

LEJ Leistungselektronik Jena
www.lej.de

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www.lmi3d.com

LOT-QuantumDesign
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Luster LightVision Tech
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POG Präzisionsoptik Gera
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STZ Qualitätssicherung und Bildverarbeitung
www.stz-ilmenau.de

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www.sukhamburg.de

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www.svs-vistek.com

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Fei Company
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Fort
www.fort-fr.com

FRT Fries Research & Technology
www.frt-gmbh.com

G4 Technology
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GE Inspection Technology
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Heliotis
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Karlheinz Hinze Optoengineering
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Horn Imaging
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Helmut Hund
www.hund.de

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www.karlstorz.de

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Oxford Instruments
www.oxford-instruments.com

Panasonic
http://business.panasonic.co.uk/imv

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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

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www.schaefer-tec.com

Schael-Optik
www.schael-optik-ltd.com

Seiwa Optical
www.seiwaopt.co.jp

Seldes
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Sensofar
www.sensofar.com

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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

Carl Zeiss Microimaging
www.zeiss.de/mikro

Optical Metrology

3D Alliance
www.3dalliance.de

3D Shape
www.3d-shape.com

Alicona Imaging
www.alicona.com

Allsens Messtechnik
www.allsens.de

AMS Technologies
www.ams.de

Andor Technology
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Applied Electro-Optics
www.aeousa.com

Armstrong Optical
www.armstrongoptical.co.uk

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www.avantes.com

Benteler Maschinenbau
www.benteler.de/maschinenbau

Bentham Instruments
www.bentham.co.uk

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www.breitmeier.de

Breuckmann
www.breuckmann.com

BST International
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Carl Zeiss IMT
www.zeiss.de/industrial-metrology

Carl Zeiss Microimaging
www.zeiss.de/mikro

Chunghwa Telecommunication Laboratories
www.leadinglight.com.tw

CMC Kuhnke
www.cmc-kuhnke.de

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www.colorlite.de

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Creaform Deutschland
www.creaform3d.com

Dantec Dynamics
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www.delta.dk

Digital Surf
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Dr. Heinrich Schneider Messtechnik
www.dr-schneider.de

Dr. Noll Optical Measurement
www.drnoll.com

Dr. Wehrhahn Messsysteme
www.drwehrhahn.com

Dyoptyka
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ElektroPhysik Dr. Steingroever
www.elektrophysik.com

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EVK DI Kerschhaggl
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www.flirthermography.de

Fraunhofer IFF
www.mpt.iff.fraunhofer.de

Fritz Pauker Ingenieure
www.pauker-ingenieure.de

FRT Fries Research & Technology
www.frt-gmbh.com

G4 Technology
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GE Sensing & Inspection Technologies
www.gesensinginspection.com

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Trioptics
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www.fujifilm.eu/fujinon

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Goyo Optical
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Hexagon Manufacturing Intelligence
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Karlheinz Hinze Optoengineering
www.hinze-opto.de

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Helmut Hund
www.hund.de

IB/E Optics
www.ibe-optics.com

IDS
www.ids-imaging.com

ifm electronic
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iiM
www.iimag.de

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www.imagehouse.dk

Image S
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IMT
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www.jenoptik-los.de

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www.phase1tech.com

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www.ksfiberoptic.com

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The Imaging Source
www.theimagingsource.com

Thermosensorik
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Trioptics GmbH
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Videor Technical
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Vieworks
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Allied Vision Technologies
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SVS Vistek
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Teledyne Dalsa
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Allied Scientific Pro
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Complete Inspection Systems
www.completeinspectionsytems.com

Creaform Deutschland
www.creaform3d.com

CSEM
www.csem.ch

CTR Carinthian Tech Research
www.ctr.at

Cypress Semiconductor
www.cypress.com

de Man Industrie-Automation
www.deman.de

Delta Digital Video
www.delta.dk

Docter Optics
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www.vision.fraunhofer.de

Fraunhofer IFF
www.mpt.iff.fraunhofer.de

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FRT Fries Research & Technology
www.frt-gmbh.com

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Gevicam
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GFaI
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msiVision
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Nexus Engiconsults
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Norpix
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Panavision Imaging
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www.vegatcgroup.com

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Vision Machines
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Vision Tools
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V-Research
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www.zertrox.de

Software

A&B Software
www.ab-soft.com

ABW
www.abw-3d.de

Adaptive Vision
www.adaptive-vision.com

Aeon Verlag & Studio
www.aeon.de

Alditech
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Alfavision
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Alicona Imaging
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Alliance Vision
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Andor Technology
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Aqsense
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Duwe 3D
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EVT Eye Vision Techology
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FDS Research
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NET New Electronic Technology
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OBE Ohnmacht & Baumgärtner
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ViDi
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Acal BFi Germany
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IMR Automatisierungstechnik
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Ioss
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IS Imaging Solutions
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Isra Vision
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ISW
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Itava
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www.jfas.co.jp

K + P Krempien + Petersen
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Kontron
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NET New Electronic Technology
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www.neupro-solutions.com

Neuricam
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Norpix
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OBE Ohnmacht & Baumgärtner
www.trevista.net

Odem Technologies
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Omron
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Opto
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SKS Vision Systems
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Vision Tools
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3D Alliance
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A&A Technologies
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ABB
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Act Smartware
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Adaptive Vision
www.adaptive-vision.com

Adept Electronic Solutions
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AGR International
www.agrintl.com

AIT Göhner
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Aku.automation
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Alfa Vision Systems
www.alfavisionsystems.com

Alfavision
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Allied Scientific Pro
www.alliedscientificpro.com

Alliance Vision
www.alliancevision.com

Altair Industries
www.altairindustriesinc.com

Applied Vision
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ASB Automation Technology
www.asb-technologie.de

Asentics
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ATM Vision
www.atmvision.com

ATN Automatisierungstechnik
www.atn-gmbh.com

Attentra
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Austrian Research Centers
www.smart-systems.at

Automation Technology
www.automationtechnology.de

Automation W+R
www.automationwr.de

Autoware
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AVT Advanced Vision Technology
www.avt-inc.com

Balaji Microtechnologies
www.balaji-microtechnologies.com

Balluff
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Basler Vision Technologies
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Baumer
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Bertram Elektrotechnik
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Bi-Ber
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Böwe Systec
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Braintech
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Brainware Solutions
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BST International
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Camsensor Technologies
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Capovani Brothers
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Carl Zeiss OIM
www.zeiss.de

Cepoint Networks
www.cepoint.com

Ceres Vision
www.ceresvision.de

China Daheng Group
www.daheng-image.com

CLK
www.clkgmbh.de

Cognex
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Coherix
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Compar
www.compar.ch

Complete Inspection Systems
www.completeinspectionsytems.com

Computer BV
www.computerbv.de

Cosyco
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CoSynth
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Credimex
www.credimex.ch

Cruse Leppelmann Kognitionstechnik
www.clkgmbh.de

CSP Services
www.cspservices.de

Cyth Systems
www.cyth.com

Datalogic
www.datalogic.com

Datapixel
www.datapixel.com

Datasensor
www.datasensor.com

de Man Industrie-Automation
www.deman.de

DE Software & Control
www.de-gmbh.com

Desconpro Engineering
www.desconpro.de

Diaplous
www.diaplous.com

Digital West Imaging
www.DigitalWestimaging.com

Divisoft
www.divisoft.com

DMC Vision & Motion
www.dmc-vision-motion.de

Dr. Schenk Industriemesstechnik
www.drschenk.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.electronicsystems.it

Ellips
www.ellips.nl

Eltromat
www.eltromat.de

Emhart Glass
www.emhartglass.com

Epix
www.epixinc.com

Epson Deutschland
www.epson.de/robots

Erhard + Leimer
www.erhardt-leimer.com

EVK DI Kerschaggl
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

Fritz Pauker Ingenieure
www.pauker-ingenieure.com

Fuchs Engineering
www.fuchs-engineering.de

Fuetec
www.fuetec.de

Futec Europe
www.futeceurope.com

G4 Technology
www.g4.com.tw

GBS
www.gbs-ilmenau.de

Gefasoft
www.gefasoft.com

Gefat
www.gefat.de

GF Messtechnik
www.gfmesstechnik.de

GFaI
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Gidel
www.gidel.com

Goldlücke Ingenieurleistungen
www.giib.de

GOM
www.gom.com

Göpel Electronic
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GPP Chemnitz
www.gppc.de

Graphikon
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GreCon
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Grenzebach Algoscan
www.algoscan.com

HaSoTec
www.hasotec.com

Heitec
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Helms Technologie
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Hengstmann Solutions
www.hengstmann.com

Hexagon Manufacturing Intelligence
www.hexagonmi.com

i2s
www.i2s-linescan.com

I3 tech
www.i3tech.de

Ibat
www.ibat-berlin.de

Ibea
www.ibea.de

Icos Vision Systems
www.icos.be

ICW [industrie-elektronik]
www.icw-news.de

iiM
www.iimag.de

Ikegami
www.ikegami.de

Image House
www.imagehouse.dk

Image S
www.imagessrl.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
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In-situ
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Inspectron
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InSystems Automation
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Ipasort
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IS Imaging Solutions
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Isra Vision
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ISW
www.isw-gmbh.biz

Isys Industrielle Bildverarbeitung
www.isys-vision.de

Itech engineering
www.itech-ag.ch

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
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Keyence
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Kirin Techno-System
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KMS Vision Systems
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L&_P
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Laetus
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Leuze Electronic
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Limess
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Lincoln Laser Company
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Machine Vision Technology
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Menzel Vision and Robotics
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Meta Vision Systems
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Mevisco
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Micro-Epsilon
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Microscan
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Mikrotron
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Modi Modular Digits
www.modi-gmbh.de

Moser Industrielektronik
www.moser-gmbh.de

MSC Inspection
www.msc.fr

msiVision
www.msivision.com

MT-Vision
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Neogramm
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NeuPro Solutions
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Neuricam
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Neurocheck
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Nexus Engiconsults
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Nikka Research Deutschland
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Nikon Metrology
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Nokra
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Norman N. Axelrod Associates
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Norpix
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OCS
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Octum
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Odos Imaging
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Orbis
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Orbotech
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Orus Integration
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Otto Vision Technology
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Panasonic Electric Works
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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.pcs-industries.co.uk

Pepperl & Fuchs
www.pepperl-fuchs.com

Perceptron
www.perceptron.com

Peter Scholz Software + Engineering
www.scholzsue.de

Phase 1 Technology
www.phase1tech.com

Phase One Industrial
http:industrial.phaseone.com

Phytec Messtechnik
www.phytec.de

pi4_robotics
www.pi4.de

Pilz
www.pilz.de

Pixargus
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Plasmo Industrietechnik
www.plasmo.eu

POG Präzisionsoptik Gera
www.pog.eu

Pollux
www.pollux.com.br

Polygon
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Polytec
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PPT Vision
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Pressco Technology
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Prime Technologies
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Prüftechnik Schneider & Koch
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Qualimatest
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Quiss
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RAA Vision
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R&W Industrieautomation
www.r-u-w.de

Radix Controls
www.radixcontrols.com

RBC Robotics
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Recognitec
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RH Engineering
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Simac Masic
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Vision Systems, Turnkey Solutions, Integration Services

Simon IBV
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SL Tec
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Smartray
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Solex
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Solving3D
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Soma
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SPG Data 3D
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Steinbichler Optotechnik
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Stöhrmann Systemtechnik
www.stöhrmann.de

Stratec Control Systems
www.bbull.com

Streppel Glasfaser-Optik
www.streppel.de

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

SysCon
www.syscon-vision.de

Systech
www.systech-tips.com

Systematic Vision
www.systematicvision.com

Tattile
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Tema
www.temavisio.com

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Tichawa Vision
www.tichawa.de

Tordivel
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TriVision
www.trivision.dk

TST Technological Solutions
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TYZX
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Unique Vision
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Univision
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Vega Technology Group
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View-Factor
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Visimation
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Visiolaser
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Vision Automation
www.visionautomation.dk

Vision Experts
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Vision Machines
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Vision Projekt
www.vision-projekt.de

Vision Tools
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Vision-Consult Bildverarbeitung
www.vision-consult.com

Visionlink
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VisioTek
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www.wesys.de

Weiss Imaging and Solutions
www.weiss-imaging.de

Weitblick Systems
www.weitblick-systems.at

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www.wenglor.com

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www.wickon.com

Wintriss Engineering
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Wolf Systeme
www.wolfsysteme.de

Zertrox
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Ziemann & Urban
www.ziemann-urban.de

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