>>>>> VISION ▸ AUTOMATION ▸ CONTROL ◂◂◂◂◂

INSPECT

BuyersGuide 2012

emva
european machine vision association

DIE VIELSEITIGSTE
GIGE VISION-KAMERA DER WELT IST DA

GiGE ®
VISION

Genie TS VGA > 1.2M > 1.4M > 2M > 4M > 5M > 8M > 12M

Die **Genie TS** nimmt Bilder mit bis zu 12 Megapixel mit extrem hoher Qualität und Auflösung auf und erreicht Bildfrequenzen von bis zu 300 Bilder/s. Integrierte Funktionen wie Mehrfachbelichtung, Farbraumkonvertierung und Metadaten mit Bildtransfer "on-demand" sind in ein kompaktes Gehäuse eingebaut. Die Schnittstelle zum PC ist per GigE Vision-Standard implementiert.

Mehr über Vision.

Laden Sie unser technisches Dokument herunter:
4 entscheidende Faktoren:
Verwendung von Gig E Vision in der industriellen Realtime-Bildverarbeitung (Englisch)
www.teledynedalsa.com/geniets/sep/i2011

TELEDYNE DALSA
A Teledyne Technologies Company

Keeping Things in View

This is the fourth printed issue of the INSPECT Buyers Guide. As in previous years, this issue presents a brief overview of the great number of companies which are active in the field of image processing and optical metrology throughout the world. The contact details of about 400 companies (of which more than 40% are outside Germany) are given. On the last pages, you can find overview tables with a large number of other companies and their internet addresses. We wish to thank the European Machine Vision Association (EMVA) for their partnership, which has once again contributed to the success of this issue of the INSPECT Buyers Guide.

The number of fields of application for image processing is continually increasing. Whereas up to a few years ago image processing was primarily used in industry, non-industrial sectors such as security and agriculture are playing an increasingly important role for the manufacturers of image processing systems and components. The topic of medical technology is also becoming more important, and for the first time will be the spotlight at the Vision trade fair. This trend is also reflected by the fact that since this May, it is possible for companies specializing in systems for non-industrial applications to become members of the EMVA. Vision is also the trend in other sectors. That's why this issue introduces the newly founded Embedded Vision Alliance (EVA), which targets the consumer market.

Unfortunately, I must finish this editorial with some sad news. Don Braggins, one of the founding fathers or the EMVA and one of the rocks on which Vision was founded, has now departed from us. He died at the end of May. Who Don Braggins was, and why he was so important for European image processing, is described by Gabriele Jansen in her obituary. Don, the image processing community will miss you.

Dr.-Ing. Peter Ebert
Editor-in-Chief INSPECT
peter.ebert@wiley.com

CONTENTS

What will the future bring? 12

EMVA Study

COVER STORY

TOPICS

BUYERS GUIDE

The INSPECT Buyers Guide is published in its fourth year now, for the third time it also serves as the official Buyers Guide of the EMVA, the European Machine Vision Association. The guide contains information about more than 750 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.
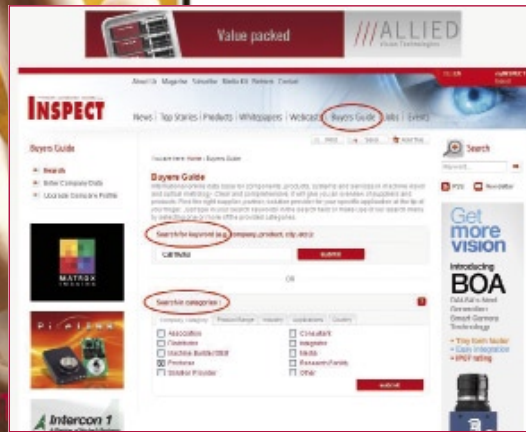
◀ **The Online Buyers Guide provides sophisticated search functions for all listed companies**

The full text search for "camera" yields 139 results: every company having used the word "camera" in their description is listed ▼

Machine Vision and Optical Metrology in Europe

The INSPECT Buyers Guide 2012

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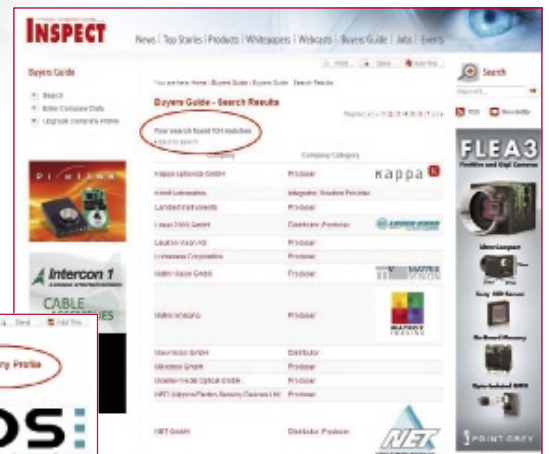
◀ **Companies providing a full-fledged company profile will be additionally found in multiple categories with the keyword search**

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 2012 is divided into three main chapters: Topics of long-term impact, 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.

► **Contact**
contact@inspect-online.com
www.inspect-online.com/
buyers-guide

Emerging European Machine Vision Industry

EMVA Study Shows Strong Recovery and Solid Growth for 2011

Much faster than even the vision companies themselves anticipated, the European machine vision industry has recovered from the effects of the deep financial and economic crisis. This is being proven by the results of the European Vision Technology Market Statistics 2011, the annual industry survey conducted by the European Machine Vision Association EMVA. For the first time, the report dedicates an entire chapter to the dynamic machine vision industry in France.

© Sebastian Kaulitzki - Fotolia.com

Industry expectations in March 2010 had been at a level of 10% increase in sales for the year, compared to 2009. In actual fact machine vision suppliers in Europe finally recorded an increase in total turnover in 2010 which was more than three times higher. Sales to all regions saw high double-digit growth rates, with the sharpest increase taking place in Asia. Also Europe, the Americas and all other countries saw strong growth rates in sales. With close to 70% of total turnover Europe remained by far the largest market for European machine vision companies. However, its share slipped under the 70% mark for the first time, in favor of exports to overseas: More than one third of all sales were thus realized with exports to na-

tions outside of Europe. Exports to Asian countries mainly went to China, Japan, South Korea and Taiwan and once more topped sales to the Americas.

Traditional Customers Gained in Importance

With the worldwide economic upswing and the related increase in industrial production, the demand for machine vision technology from the traditional industrial customers sharply increased last year and accounted for the vast majority of total turnover. Sales of vision systems to the automotive industry, the largest customer sector, saw the sharpest

increase. High double-digit growth rates were also achieved with system sales to the pharmaceutical and cosmetics industry, the electrical and electronics industry, the packaging industry, the rubber and plastic industry as well as with the manufacturers of medical devices.

However, absolute sales to the non-industrial sector remained almost stable and only lost relative share due to the high growth in sales to the industrial sector. This shows that vision technology providers who have their roots in traditional industrial production have cemented the non-manufacturing sector as an important business area. Machine vision applications continue to conquer areas such as safety and security, medical engineering, market research, as well as environmental technologies, sports and electronic entertainment.

Products and Applications

Sales of vision systems accounted for just over half of the total turnover last year, and turnover with vision components had a good 45% share in 2010. As in previous years, the product types of sophisticated vision systems and cameras had the largest share of absolute turnover, and the turnover increase with cameras was the largest amongst all products. However, all product types managed to increase sales double-digit, compared to the year 2009. With the merge of the two product types of smart cameras/compact systems and vision sensors, the 2011 edition of the European Vision Technology Market Statistics has taken into account that the borders between smart cameras and (smart) vision sensors become increasingly blurred. The report describes detailed market and technology trends on the various product types not only in the product category of vision systems, but also for cameras, lighting, software, frame grabbers and interfaces in the product category of vision components.

Discrete inspection of piece parts again remained the dominant application of machine vision systems last year, while the share of continuous inspection of total system turnover declined somewhat. By this it ranked third in importance after 3D metrology.

Value packed

The **Manta** is a perfect balance of quality and affordability. Because reducing cost required more than just trimming a little fat, we developed a new, optimized platform featuring a compact cast housing, single board architecture, and our enhanced GigE Vision interface. Which means you don't have to settle for anything less than a grade-A quality Sony ICX CCD sensor for images up to 5 megapixels, and up to 88 fps. If your application calls for a camera with the best value for money, serve up the Manta. Learn more at **www.AlliedVisionTec.com/ValuePacked**

///ALLIED
Vision Technologies

S E E I N G   I S   B E L I E V I N G

Turnover* of European Vision Companies by Regions 2010 in Percent

Europe 67,6%

All other countries 1,7%

Americas 14,3%

Asia 16,4%

* of surveyed companies

Source: EMVA

European Vision Companies' Changes in Sales 2009, 2010 and Forecast 2011

- 2009/2008
- 2010/2009
- 2011/2010*

2009/2008: -21%
2010/2009: 35%
2011/2010*: 20%

*Forecast

Source: EMVA
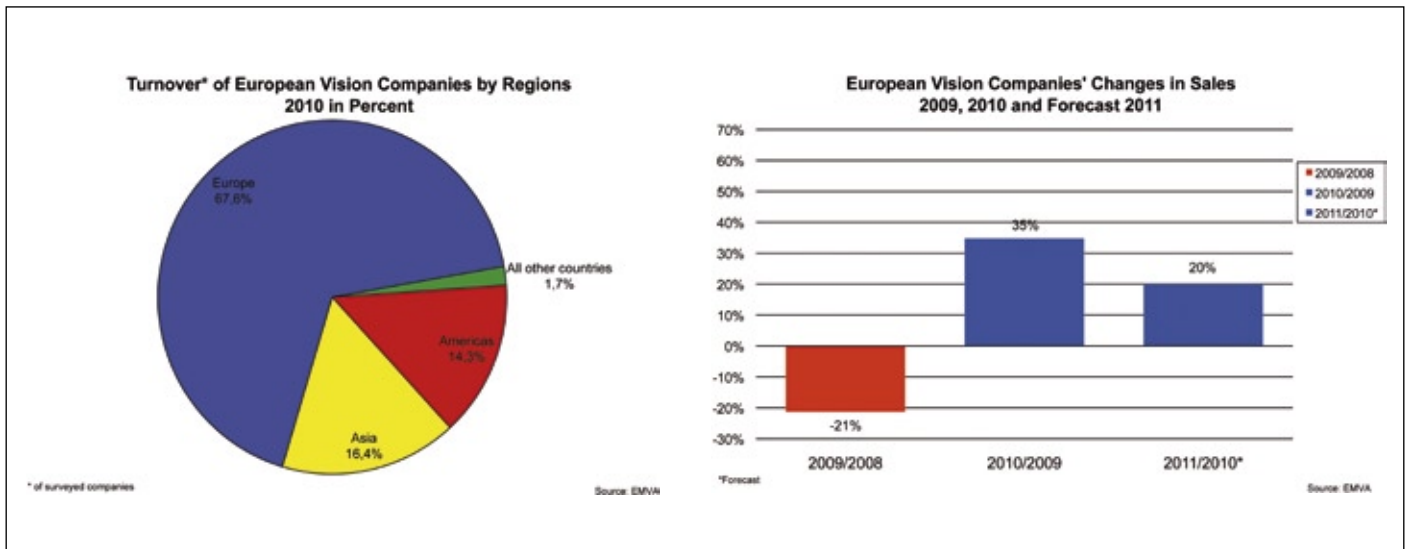
Machine Vision Industry Remains SME Driven

Since European machine vision companies have reduced their personnel much less than the decline of turnover during the crisis might suggest, the average number of employees did not change significantly during the boom phase last year. With an average staff of 29 employees, the industry is still driven by small and medium enterprises (SME). The company size still varies considerably: From an average of 32 employees in Germany to 26 employees in all other European countries. Still, Europe-wide, almost half of the companies reported a staff between one and 10 employees and can be considered small.

France: Dynamic Market

In the all-new country report on France, the latest EMVA report delivers in-depth information about the French machine vision industry. Both in terms of number of vision companies active and in the number of industries they serve, the French market proved to be much more dynamic and multi-faceted than initially expected. Several discrepancies from other major markets were discovered in the second largest European machine vision industry, such as in the structure of the companies and company types as well as in the specialization in certain customer industries.

Double-digit Growth in 2011

Industrial imaging remains a vital component in the automation business, and European suppliers still are amongst the leaders in providing machine vision technology. The remarkable upswing last year in the automotive industry, together with industries that are relatively res-

ilient to economic fluctuations such as the pharmaceutical and the food industry guarantee that traditional customer industries will remain the backbone of vision technology companies in Europe. Yet, having sheer unlimited possibilities of application, turnover of machine vision in non-manufacturing sectors will rise again this year.

Machine vision technology already helps make our industrialized world more eco-friendly. Individual economic necessities such as remaining competitive and maximizing profit are not in conflict with the green effects practically all machine vision applications have. Climate change, a growing world population and urbanization are three mega trends humankind is facing today and Green Vision solutions already make a substantial contribution to tackling these issues.

For the current year 2011, EMVA expects the growth rate in the industry to remain dynamic and reach 20%.

EMVA Market Study

The "European Vision Technology Market Statistics" is an annual industry study issued by the European Machine Vision Association (EMVA). Data from 225 companies in the European machine vision industry have been evaluated for the 2011 edition of this report. Data for the report has been primarily collected directly from the companies in a questionnaire-based survey, complemented by numerous interviews with experts across Europe.

Industry sales in the survey are broken down to regions, product types, applications, and customer industries. In addition to the European statistics, readers now find four country-specific reports covering machine vision in Germany, Italy, the United Kingdom and – for the first time – in France. The survey does not only address enterprises in the machine vision industry, it can also serve as a valuable tool for stakeholders from all industry related areas who wish to find out more about the market, trends and developments. The 2011 study can be obtained directly from the EMVA.

European Vision Technology Market Statistics

2011

▶ **Author**
Andreas Breyer, Director of Market Research, EMVA

▶ **Contact**
European Machine Vision Association – EMVA
Frankfurt, Germany
Tel.: +49 69 6603 1470
Fax: +49 69 6603 2466
breyer@emva.org
www.emva.org

What Will the **Future** Bring?

Trends in Machine Vision and Robot Vision

Real time detection and the integration of machine vision are the most important technical machine vision topics in the near future. Applications that offer the highest potential have one thing in common – they require 3D.

For the new market intelligence survey Robot Vision by AMC more than 400 companies have been asked about their expectation for the future potentials of several technical topics and applications and the most pressing user requirements. Almost 100 companies representing industries such as Agriculture & Forestry, Aerospace, Automotive, Food & Packaging, Foundry, Logistics, Medical Engineering, Military & Defense, Photovoltaic, Pharmaceuticals, Security & Surveillance and Service Robotics reported back. By interviewing suppliers, integrators and end users the compilation of an extensive survey of the markets was achieved. This subset of the total report has now been published by AMC under the title "Future Trends in Machine Vision".

Many topics have been addressed, explained and analyzed within the reports. Between more or less futuristic topics like computational cameras or service robotics and already well established technologies about to have their breakthrough such as

bin picking or increased camera resolution, overall three topics have been rated "high potential" by most of the companies participating in the survey and representing so many industries and markets:
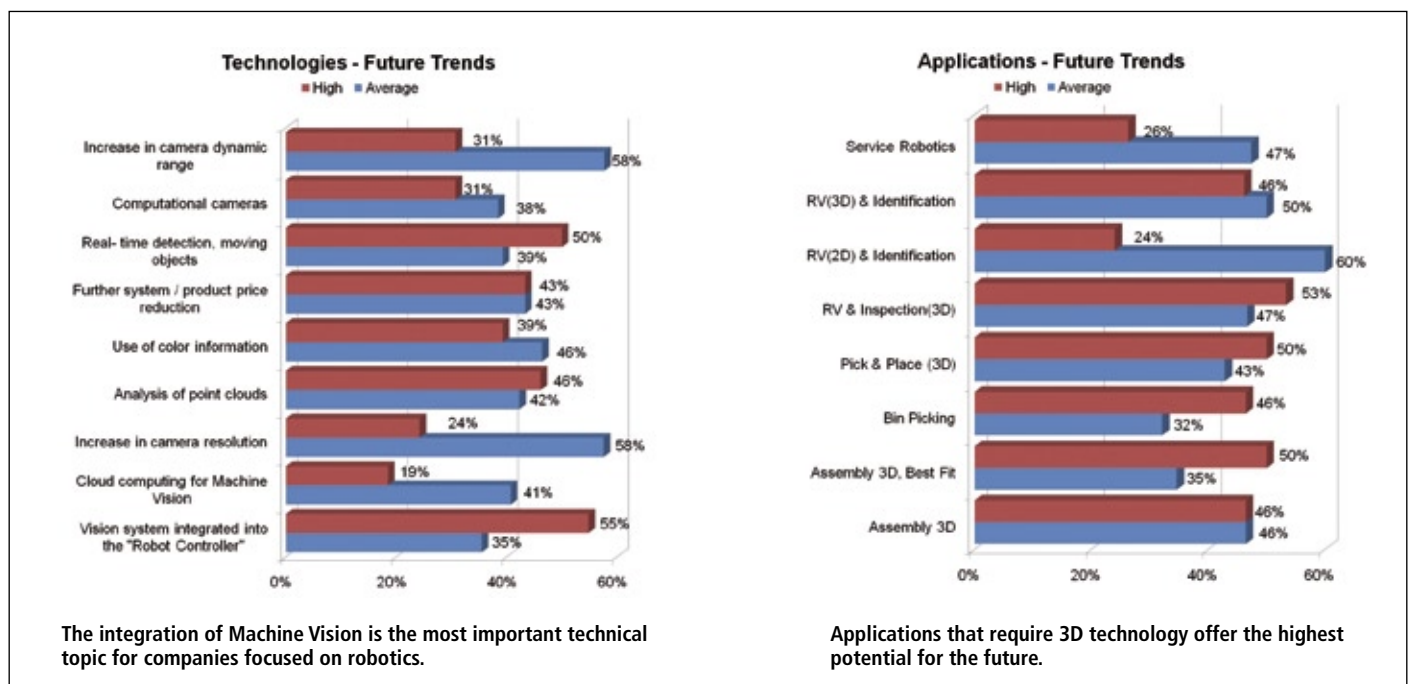
- the integration of machine vision,
- Motion – moving parts and objects,
- 3D.

Integrated Systems

Integrated vision systems are required and delivered since many years. The reason that this is still a topic worthwhile to mention under "trends" is that the integration is continuously progressing still – if not even accelerating. With integrated systems communication interfaces have to be not any longer discussed, joint user interfaces (MMI) for the machine itself and the integrated vision part ease the use, less space is required and also many time costs for hardware and training can be saved.

New technologies and developments enable an increasing range of new products and applications to be realized by integrating Machine Vision into the handling device, the production machine itself and many other machines, vehicles and tools. For example integrated robot vision systems in Scara and Delta robots are very successful, provided by many suppliers and standard for many custo-

The integration of Machine Vision is the most important technical topic for companies focused on robotics.

Applications that require 3D technology offer the highest potential for the future.

mers. Apropos of other industries and markets many applications requires integrated solutions such as driver assistance, gaming, UAV's and UGV's.

Motion – the 4th Dimension for Machine Vision

Motion is called many times the 4th dimension for machine vision. In the typical industrial applications motion is predictable and therefore much easier to handle. This means that we know the process conditions. Outside of applications in manufacturing there are many more challenging applications and markets that do require the technology to work in or work with motion. Sometimes even both when it is required to follow something in motion as it is the case with visual servoing or, looking at the ITS (Intelligent Traffic Solution) market segment, driver assistance. The vision system helping a vehicle to follow another one is a good example here. So understanding why "motion" is seen as such an important topic one needs to take a look at the markets and applications where it is used and required.

3D

There are different perspectives to look at 3D, a proven technology that is used already in many applications, such as robot guidance, 3D measurement and 3D digitization. Recent developments, however – ToF (time of flight) cameras, highly sophisticated algorithms for the analysis of point clouds and more available speed – have enabled the realization of new products and many new applications. Influenced by consumer markets 3D machine vision starts to turn into a mega trend and spread into many new directions, inside and outside the classical application fields. 3D movies, TV and games like the Wii overcome reservations against the technology, make it a widespread and thus turn a feature into a requirement, similar to what we have witnessed in the past with the PC, with Windows, with Fire Wire and with USB.

▶ **Author**
Holger Hofmann,
Managing Director

▶ **Contact**
AMC Hofmann, Heppenheim, Germany
Tel.: +49 1577 530 69 69
Fax: +49 6252 68 93 95
hofmann@amc-hofmann.com
www.amc-hofmann.com

Embedded Vision:
The Benefits of an Industry Alliance

How You Can Utilize the Potential of Embedded Vision Technology

Computer vision got its start in applications such as assembly line inspection, robotics, and surveillance systems. More recently it has expanded into numerous other higher-volume markets because of decreasing costs and increasing capabilities.

Embedded vision technology has the potential to enable electronic products to be more intelligent and responsive, so that they are more valuable to users. It can enable electronic equipment companies to both create valuable new products and add helpful features to existing products. And it can provide significant new markets for hardware, semiconductor and software manufacturers. A unified worldwide alliance of suppliers, system developers and end customers will help transform this potential into reality in a more rapid and efficient manner.

As computer vision technology developers and users, you're already well aware of the vibrant potential of this technology and have developed extensive expertise in applying it not only in the lab but also in far more challenging real-life operating environments. Due in no small part to your efforts over the years, the technology required to implement embedded vision is becoming less expensive, and has now crossed a threshold enabling widespread deployment. As such, you're likely excited about the potential for latest-generation chips, sensors, and algorithms to not only make dramatic performance improvements in your applications, but also to significantly reduce the cost of creating and manufacturing those designs. And you might even be considering leveraging your technology proficiency in targeting new products for emerging high volume markets.

From High-End to Mainstream

As embedded computer vision technology becomes less expensive, it is proliferating rapidly into a wide range of applications and markets. Odds are high, for example, that the cellular handset in your pocket and the tablet computer in your satchel contain at least one rear-mounted image sensor for photography (perhaps two for 3D image capture capabilities) and/or a front-mounted camera for video chat support. The same goes for your laptop computer, where bezel-located image sensors are now pervasive and are increasingly also installed in all-in-one desktop computers and standalone displays.

Driver-assistance cameras have been resident in high-end cars for several years now, and are now migrating downward into higher-volume mainstream models, along with increasing the number of cameras per car to fill in blind spots, assist in parking and other maneuvers, and provide early warning of
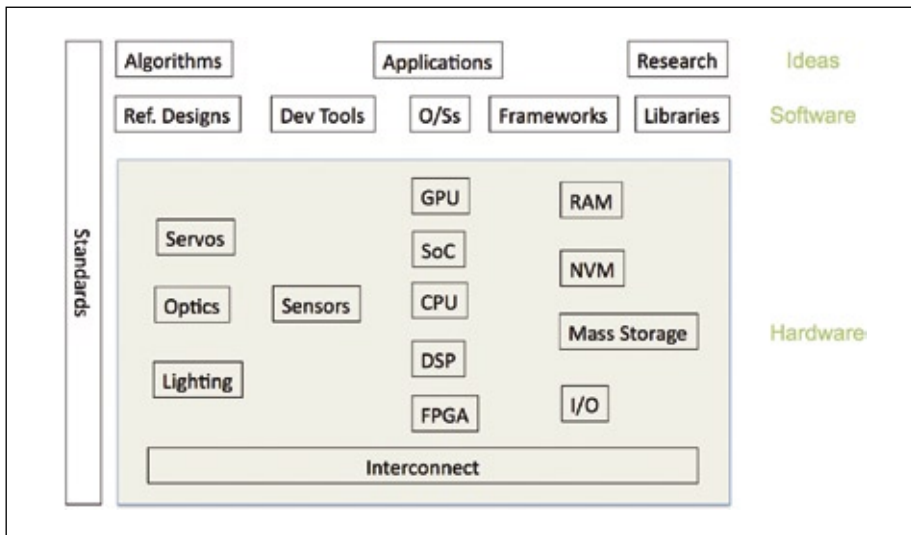
The embedded vision ecosystem spans hardware, semiconductor and software component suppliers, subsystem developers, systems integrators and end users, along with fundamental research. A worldwide alliance will help the ecosystem develop fully and function efficiently.

impending collisions and other looming catastrophes. Digital still and video cameras have displaced their analog precursors, with latest-generation models going beyond simple image capture and processing functions to incorporate more advanced analysis-and-response features such as face-detection-driven focus and exposure compensation. Advanced cameras will even delay the shutter activation until they discern that the subject is smiling. As such, they not only "see" but also are beginning to "understand" the environments in which they operate.

Other consumer electronics systems are also becoming vision-augmented if not vision-centric, with Microsoft's Kinect peripheral for the Xbox 360 game console leading the charge. Medical systems are increasingly supplementing human intelligence with computer vision-fed algorithm analysis to assist in patient diagnosis and treatment. And the ability to assess and react to a subject's emotional state is not only of interest to physicians; imagine the interest in such a capability to a toy manufacturer, for example, or to a retailer.

Open Up New Markets by Decreasing Costs

Embedded computer vision relies on a diverse range of technology. For example, driven by expanding and evolving application demands, image sensors are making notable improvements in key attributes such as resolution, low-light performance, frame rate, size, power consumption and cost. Similarly, embedded vision applications require processors with high performance, low prices, low power consumption, and fle-

xible programmability, all ideal attributes that are increasingly becoming a reality in numerous implementation forms: microprocessors and embedded controllers, application-tailored SoCs, DSPs, graphics processors and FPGAs. Similar benefits are being accrued by latest-generation optics systems, lighting modules, volatile and nonvolatile memories, and I/O standards. And algorithms are increasingly up to the challenge, leveraging these hardware improvements to deliver more robust and reliable analysis results.

How Do You Ensure Success in Both Established and New Markets?

The consequent increase in (and improvement in) suppliers, products from those suppliers, and volume shipments of those products is good news for those of you in traditional embedded vision applications such as factory inspection, optical character recognition, robotics, surveillance and military systems. You're able to leverage more cost effective building blocks, hardware, semiconductor and software alike from a burgeoning list of vendors. And you're also able to leverage your existing expertise to target new markets for the technologies you've developed and refined over the years. But how can you identify, track and cultivate effective relationships with the ever-expanding list of suppliers? Similarly, how can you make your company visible to customers in new markets that you may not yet realize exist? And how can you keep abreast of developments elsewhere in the supply chain and distinguish yourself as a leader in your product space?

The Intention of the Embedded Vision Alliance

A unified worldwide forum addressing the full range of embedded vision technology and applications would be the ideal means to regularly assemble ecosystem participants spanning all points of the spectrum. This, in summary, is the intention of the Embedded Vision Alliance, spearheaded by BDTI (Berkeley Design Technology, Inc.) and publicly launched in May 2011. By both formally and informally coordinating the activities of Alliance partners, the Alliance aspires to dramatically accelerate the adoption and progression of embedded vision technology for the benefit of all market participants. The Alliance has already developed a robust website presence, freely accessible to all and including (among other things) technical articles, video demonstrations, and a multi-subject discussion forum staffed by a diversity of technology experts. But the Alliance's vision is much more expansive, including:

- comprehensive education facilities that will enable new participants in the embedded vision application space to rapidly ramp up their expertise;
- creating links between research and industry to speed the commercialization of technology breakthroughs;
- the codification of hardware, semiconductor and software standards that will accelerate technology adoption by eliminating the confusion and inefficiency of numerous redundant implementation alternatives; and
- the creation of reference designs and other aids that will streamline the development of embedded vision products.

▶ **Author**
Brian Dipert, Editor-In-Chief, Embedded Vision Alliance

▶ **Contact**
Embedded Vision Alliance
Oakland, CA, USA
Tel.: +1 510 451 1800
Fax: +1 510 451 1885
info@embedded-vision.com
www.embedded-vision.com

A True Visionary

In Honor of Don Braggins (1941 – 2011)

Looking back to the infancy of what eventually turned into the machine vision industry of today I do not remember a time before Don Braggins. When I started to attend my first Vision trade shows, the then Ident/Vision in cozy Sindelfingen, Don was pointed out to me as a man knowing everything there is to know about machine vision, the technologies and the players. In the years to come I found that to be very true. Don was a constant source of information and history as he could trace back many a company to their roots, many technologies to their inception and the skillful inventor behind. Helped by the brilliant memory of his he was able to dot the i's and cross the t's and trace back the successful owner of company A today to the humble engineer in company B 10 years ago. Or sometimes vice versa. He was remarkable not only for having this wealth of information neatly organized and quickly available in his brain but also for always being willing to share what he knew freely. In fact he loved sharing, which is a trait very rare to find.

Now Don himself has become part of the history of our industry. He has passed away after a short but fierce battle with cancer this last May, shortly after his 70th birthday. When INSPECT has asked me to write something about Don to honor him I felt that the honor was actually mine. During the six years of being the president of the EMVA I have closely worked together with Don on the Executive Board of the association. Don had been instrumental during the founding phase of the EMVA and became member of the first Board, then was re-elected for a second three-year term. He represented the UKIVA, the UK machine vision association he had co-founded in 1992, and thus brought a lot of experience in association work into our group. During this time I had the chance to get to know him better and to value his very British sense of humor, always expressed with a to the point command of his mother tongue.

Donald William Braggins was born in 1941 in Banbury near Oxford as the youngest of three boys. Already in his early school days one could see in which direction he might later turn as he has won prizes for maths and sciences while boarding at Dean Close school in Cheltenham. Later, between 1959 and 1962 he read Natural Sciences at Clare College in Cambridge focusing on Metallurgy. During this time he also met his future wife Anne, getting married in September 1961. After getting his degree as engineer Don started with the small keen group of Metals Research in Cambridge working in a cage growing single metal crystals for research. One of the main projects was to count inclusions in steel which eventually led to the birth of the first vision system using a rented monochrome TV set that actually counted automatically and later became the Quantimet Image Analyser. That must have been the moment the life-long infatuation with the vision technology has started. Anne Braggins has told me that she had been there during these firsts tests, so being part of it right from the beginning.

Don then moved on to Radyne in Workingham in 1965 working on crystal pulling. In 1968 he was recruited back to Metals to go and start the American office with a local partner for the first year based near Nyack NY. He later took responsibility in the USA for promoting the Quantimets and he and his family spent nearly three years there. They finally returned to the UK where he returned to Metals in 1971 and had many ro-

> " *Don Braggins was somewhat of a dinosaur of our industry, like I see myself as one. Maybe this was a reason for us being so close. As General Secretary of the UKIVA Don has been instrumental for the development of machine vision in the UK and has achieved a lot. We also value his work as an active founding member of the European Machine Vision Association EMVA. The long time of working together, a lot of joint projects and the cooperation in association work, all this has led to us becoming good friends. He will be missed in the machine vision industry. I will miss him.* "
>
> *Willhelm Stemmer, CEO Stemmer Imaging*

> " *Don Braggins was a terrific resource for information on European machine vision markets and a major contributor to AIA market research during our formative years as a trade group. He also was an extremely important friend to AIA after we made the decision to become a global trade association. I very much enjoyed working with Don on a professional and personal level. I'll never forget when he and Anne brought their delightful grandchildren to our annual AIA Business Conference. He, Anne and the children will always remain a part of the AIA family!* "
>
> *Jeff Burnstein,*
> *President Automation Technologies Council*

> " *I still keep in good memory our joint conversations. I valued Don as mindful listener, as qualified commentator and as independent head. A mixture rarely to be found. He is missed.* "
>
> **Dr. Olaf Munkelt, CEO MVTec and Chairman of the Board of VDMA Machine Vision**

> " *Don has been a guiding light in the machine vision industry. His specific knowledge, his international network of contacts and his continuing presence in the vision scene have been instrumental in gaining this industry the importance it enjoys today. Personally I very much valued his calm and courteous manner, as well as his commitment to the industry in contributing to a global range of committees without any consideration for personal advantages. His advice and his manifold input for the advancement of the Vision show in Stuttgart had a decisive impact on sharpening the Vision's profile into the worldwide leading trade show for machine vision as that it is rightfully known today. We will always remember Don as good friend and true partner.* "
>
> **Thomas Walter, Division Director Industry and Technology, Landesmesse Stuttgart**

les including Company Secretary, as such been involved in the take-over of Cambridge Instruments in 1976. Eventually when the company had a succession of new owners Don's frustration at the lack of investment in industrial vision led him in 1983 to start his own consultancy. Over the years his Machine Vision Consultancy became known for its independence as a source of information about machine vision products and services. Among the company's clients have been start-ups as well as multi-nationals, machine vision providers as well as machine vision customers, entrepreneurs as well as investors. The company also did a lot of the market research work on machine vision for Frost and Sullivan and that led to producing the European statistics for the AIA. Don was constantly researching the market and contributed his finding as editor for a number of magazines like Sensor Report, Sensor Review, Advanced Imaging and others. Between 2005 and 2009 he has been the Associate Editor for Machine Vision for the peer-reviewed SPIE journal Optical Engineering. Don was a speaker at the AIA and EMVA conferences, advised on research projects for the European Commission among others and helped a number of other consultants and authors. Contracts for due diligence led to board positions at Fastcom, a spin-off from Swiss EPFL, and later Falcon Vision, a machine vision system integrator in Hungary. As a Chartered Engineer Don was elected a Fellow of SPIE in 1990. In 1992 Don's 'Machine Vision Consultancy' was one of the founder members of the UKIVA and in 1995 he took over its administration. During his 14 years tenure as General Secretary the UKIVA has grown to 31 full members and 11 academic members by 2009 at which time he has overseen the transition of the Association into a Special Interest Group of the Processing & Packaging Machinery Association (PPMA).

Don was passionate about spreading the word on Vision and helping the industry grow in any way he could. In this spirit he took on a lot of voluntary work. In addition to serving the European Machine Vision Association as Board member he was also a member of the jury for the Vision Award, the prize for applied image processing, of the Vision trade show from 2000–2009.

According to his wife Anne in his private life Don was an extremely able DIYer, their house eventually being well fitted with many useful features. Some 15 years ago he even installed a swimming pool, then some chalets and a sauna in a quiet area of the garden. Also travel, food and wine remained an interest until the day he died. From our joint EMVA Board days I remember more than one occasion where Don and Anne made use of the Board meetings spread all over Europe to drive there by car and explore the beauties the respective area had to offer. I always found that to be a very healthy combination of professional dedication and enjoying life. Don also supported Anne Braggins for over 30 years in her voluntary work for Orienteering, in particular in the development of TrailO the version for all, including those with disabilities.

In his own eyes Don's major achievements have been passing on information to others and seeing the industry evolve, in his opinion rather slowly.

Don Braggins died on May 25th, 2011. He leaves a wife, two children and five grand-children. He will be missed. He will also be remembered as one of the pillars of machine vision.

> " *Don was passionate about the machine vision industry and understood its potential from its very beginnings. His ability to bring people and ideas together has had a huge impact on the development of the European machine vision sector. He was also passionate about creating a European association and became a founding father of the EMVA. After the new association took up its work, Don was instrumental in building it up, serving six years as a Member of its Executive Committee. Don was simply unique and I can see no one filling the gap he leaves behind.* "
>
> **Patrick Schwarzkopf, General Secretary of the European Machine Vision Association (EMVA)**

▶ **Author**
Gabriele Jansen
Owner & President of Jansen C.E.O.
Member of the
Executive Board EMVA
jansen@jansen-ceo.com

What's New?

The Big Camera Interface Survey

Camera Link 2.0: One Coherent Specification Instead of Appendixes

Camera Link, first adopted by the AIA in 2001, has grown to become the leading digital interface in the machine vision market and will continue to meet industry's needs for many years to come. Camera Link (1.3/2.0) offers a high performance, low cost solution for bandwidth up to 6 Gb/s over 10 m cable. Technology advances have led to the expansion of the Camera Link family to include bandwidths up 48 Gb/s and cable lengths of 20 and 80 m with Camera Link HS. The current version, Camera Link 1.3, contains several innovations and improvements to the original specification including:

- Power over Camera Link (PoCL),
- miniature SDR connector,
- revised cable specification giving manufacturers more flexibility and consumers more cable choices,
- PoCL Lite offering a minimized solution.

Each of these has increased the capability, reliability and market share of the Camera Link standard for the good of the user. As improvement work was completed in each of these areas, the original specification was modified with an appendix. Version 1.3 represents the sum of all the committee work, but contains many appendixes.

The Camera Link committee is near completion of version 2.0. Camera Link 2.0 will rewrite the specification from end to end, incorporating all the appendixes into one coherent specification. It will represent the culmination of years of active committee work and will provide a stable, supported platform for the machine vision market for years to come. Camera Link 2.0 is targeted for release before November 2011.

Higher Performance with Camera Link HS

Camera Link HS looks to further the capabilities of the original Camera Link standard. Driven by developments in high-speed CMOS imagers, sensors with increased bit depths, multi-camera machine vision systems and other general market demands for greatly increased bandwidth, Camera Link HS will be a quantum leap forward to a blazing 48 Gb/s data transfer rate.

While not backward compatible with existing Camera Link hardware, Camera Link HS will maintain the hallmarks that have made Camera Link the best suited digital standard for the machine vision market: multiple low latency bi-directional signal lines; highest available bandwidth; full duplex high-speed communication channel; and deterministic data transfer.

Initial development of Camera Link HS is being done utilizing CX4 (Infiniband) style cabling and is capable of 20 m. However, Camera Link HS is being developed as a FPGA IP core and utilizes off-the-shelf Serdes for data serialization. This combination helps make the physical interface independent and a number of additional physical media options will be available, including fiber optic and coaxial cable. The Camera Link HS protocol has been tested at distances up to 80 m on standard RG59 coax and Camera Link HS on coax was demonstrated in the US at the AIA standards booth during the recent Automate Show in Chicago.

How Differentiates Camera Link HS from Other Standards?

In addition to the standard Camera Link attributes, Camera Link HS will employ additional features to achieve higher performance and make manageable use of the high bandwidth data. Some of the new features are:

- K-codes for packet priority – K-codes allow the packet arbiter to distinguish short high priority control packets from larger image data packets. This is how low latency and jitter control lines can be achieved while still maintaining deterministic transfer of larger image data packets.
- 300 MB/sec communication channel – the provision for high bandwidth, full duplex communication allows the command and control of multiple processors for processing the 48 Gb/s image data.

Steve Kinney, Director of Technical Pre-Sales for JAI and Chairman of the AIA Camera Link Standards Committee

- Data Forwarding – Camera Link HS includes provisions for data forwarding, making true parallel processing of the image data possible.
- Structured packetization of image data – unlike other standards, image data is placed in packets in a structured manner. This allows the image to be coherently divided by the host and passed to multiple processors, further aiding in parallel processing schemes.

This combination of features differentiates Camera Link HS from all of the other available digital standards for machine vision. Most other standards focus only on the data transfer, with little regard to how the host will be able to process the data.

The whole purpose of a machine vision system is to acquire an image, process the image, make a decision and create an output action. At the 48 Gb/s data rate supported by Camera Link HS, none of the standard processor options are capable of processing the data in a single unit. The ability to support parallel processing is a necessity to make the standard useful in a machine vision environment.

www.machinevisiononline.org

▶ Contact
JAI Inc. San Jose, CA, USA
Tel.: +1 408 3830 300
Fax: +1 408 3830 301
www.jai.com

CoaXPress: Implementation of GenICam

High speed area-scan and line-scan applications are using larger and faster sensors. These generate considerable volumes of image data, which must be transmitted at high speed and sometimes over longer distances without loss or degradation. The CoaXPress digital video interface specification is the first internationally accepted standard to address this, with speeds up to 6.25 Gbps and distances up to 40 m (or 130 m at 3.125 Gbps) over a simple, single 75-Ω coaxial cable. CoaXPress is scalable, with bitrates ranging from 1.25 Gbps to multiple cable implementations running at 25 Gbps and more. A 20 Mbps uplink carries configuration and control data, as well as providing power at 24 VDC up to 13 W per cable.

CoaXPress Development Update

CoaXPress technology was originally developed by the CoaXPress Consortium – an industrial consortium of companies, founded by Active Silicon, Adimec and EqcoLogic. Technology demonstrators were showcased in Stuttgart, Germany at Vision 2009. These included cameras from Adimec, frame grabbers from Active Silicon and cables from Components Express, all using EqcoLogic transceivers. The products and technology were well received and the CoaXPress Consortium won the Vision Award 2009 for innovative new technology.

The CoaXPress specification became a JIIA (Japan Industrial Imaging Association) Standard in December 2010: JIIA announced this v1.0 Standard in January 2011. A three month appeal period followed, in which the Standard was publicly available for download, peer review and feedback. No adverse feedback was received, so the EMVA (European Machine Vision Association) and AIA (Automated Imaging Association) then accepted it as a world standard, which they announced jointly with the JIIA during the Chicago Automate 2011 exhibition at the end of March 2011. In June 2011, the first CoaXPress Plugfest was held at the Image Sensing Show in Yokohama, Japan. At this relatively informal event vendors could interconnect their products to see if they worked together successfully. This Plugfest was the first step in implementing a global validation process for ensuring that products are compliant with the CoaXPress standard. Several imaging system suppliers, as well as representatives

Colin Pearce, Managing Director, Active Silicon

from the JIIA, EMVA and AIA were present.

Compliant products can carry the CoaXPress or CXP-certified logo, assuring system developers that they are fully compatible with the coaxial cable based interface and offer plug-and-play compatibility for fast and efficient development, implementation and integration within imaging systems.

At the end of June 2011 there was a meeting in Munich between circa 20 CXP developers from Japan, Europe and North America. The agenda was to discuss and plan the implementation of GenICam into CoaXPress. GenICam compliant vision systems provide an Applications Programming Interface (API) which remains consistent irrespective of the vendor or interface technology used. This API allows an XML file to be retrieved from or written to a GenICam camera, containing a 'Programmer's model', or set of standard registers that can be loaded with values for camera parameters such as 'exposure time' for example. A key topic discussed related to the integration of two GenICam devices – say a camera and an acquisition device (typically with processing ability) in a single CoaXPress based imaging system. Further developments in the CoaXPress specification are likely to include miniature and multiway connectors; a dedicated high-speed uplink (using multicore coax); options for using optical fiber; and methods to transport metadata.

www.coaxpress.com

► Contact
Active Silicon, Iver, United Kingdom
Tel.: +44 1753 650 600
Fax: +44 1753 651 661
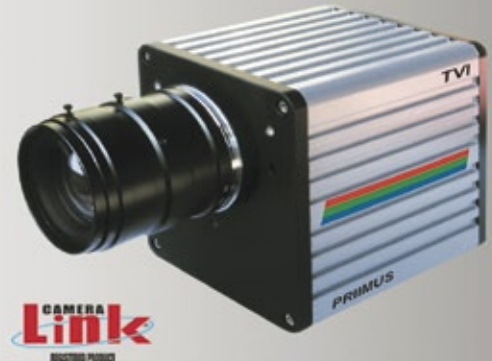colin.pearce@activesilicon.com
www.activesilicon.com

GenICam 2.2: Support for All Major Operating Systems Like Windows, Linux and Mac OS X

The GenICam standard is one of the giant success stories in the field of image processing. It was established in 2006 with the goal of providing a generic programming interface for all kinds of cameras. No matter what interface technology (GigE Vision, Camera Link, 1394 DCAM, USB, etc.) is being used or what features are implemented, the application programming interface (API) should always be the same. This goal has definitely been reached, and the standard has brought huge advantages for camera users and for camera and software manufacturers. Nowadays, GenICam lets developers worldwide use and interchange GenICam compliant cameras easily, regardless of the manufacturer, interface, or protocol technologies.

The GenICam standard is hosted by the European Machine Vision Association (EMVA). More than 90 companies from all over the world are now part of this initiative. GenICam consists of four modules:

■ GenAPI – an XML description file format defining how to access and control a camera device in a standard way.

■ The GenICam Standard Features Naming Convention (SFNC) – common naming convention for camera features, which promotes interoperability between products from different manufacturers.

■ GenTL – a generic Transport Layer Interface between software drivers and libraries that transports the image data from the camera to the application running on a PC.

■ CLProtocol – a specification for the interfaces of a platform dependent dynamic-link library (CLProtocol DLL) used to convert a vendor-specific Camera Link serial protocol interface to a GenAPI interface.

What's New in GenICam 2.2?

With the GenICam 2.2 release, two major improvements were realized: the support for the Mac OS X operating system and the support for the Camera Link interface. The GenICam standard now provides support for all major operating systems: Windows, Linux and Mac OS X. With GenICam being used more widely, the committee felt it was time to adopt it under Mac OS X. We are confident that this release will open the door for an entirely new segment of GenICam users. One example could be academic researchers. Macs are used frequently in the scientific community, and we think that we can better support them by offering a generic interface for the cameras and camera-related products they use.

GenICam 2.2 now also brings the powerful GenAPI to Camera Link. The GenICam Standard Features Naming Convention was enhanced to cover Camera Link, so Camera Link and GigE Vision cameras now have a very large feature set in common. This actually moves Camera Link cameras near to "plug and play," just like cameras with other interfaces such as Gigabit Ethernet. In addition, GenICam allows the use of legacy cameras thanks to the CLProtocol specification defining a common interface for Camera Link protocol driver DLLs (dynamic-link libraries).

What's Ahead?

GenTL is starting to hit the market. With the development of new interface tech-

Dr. Friedrich Dierks, Head of Software Development at Basler and Chairman of the GenICam Committee

nologies, software vendors face the challenge of providing drivers and frame grabbers for these new interfaces. Thus a standardized software interface between grabber, driver and software library is required – and this will be GenTL. An example is the new CoaXPress interface; the CoaXPress standard recently adopted GenICam as its standard interface. By the end of 2011 there will be about 12 companies providing GenTL compliant drivers, and more than 10 GenTL compliant applications will be available that can interoperate with GenTL compliant drivers. In the next few months, we will work on increasing performance and decreasing the footprint of the GenAPI reference implementation. Applications on embedded systems will see particular benefit from these improvements.

We also plan generic support for the manifest register that is part of the GigE Vision standard. This will allow users to choose between different GenICam XML file versions in a camera. These are just a few examples of the ongoing work of the GenICam committee. We will continue development, of course, and constantly work on enhancing the operating system coverage, improving existing features, and creating new functionalities.

www.genicam.org

► **Contact**
Basler AG, Ahrensburg, Germany
Tel.: +49 4102 463 0
Fax: +49 4102 463 109
info@baslerweb.com
www.baslerweb.com

GigE Vision 2.0: System Integrators Can Expect Higher Data Rates

Why do you think so many companies are moving to adopt the GigE Vision standard?

V. Rowley: What we hear is that the demand is coming directly from the end customer. Ethernet is an elegant solution in many ways, and in many markets. Naturally, the longer cable distances that are possible with GigE Vision are desirable, but there are a number of other reasons we hear too. For instance, in quality inspection, Ethernet is appealing because it doesn't require a frame grabber. Not only does this eliminate a cost point, but it allows for small form-factor PCs, like laptops. Furthermore, GigE Vision is the only interface that allows for networked video, which can really open up system design possibilities and make application deployment much simpler.

What enhancements can we expect with the 2.0 release of GigE Vision?

V. Rowley: The new release is going to offer a number of additional features including support for higher data rates, precise clock synchronization, image compression, improved flow control and transport efficiency.

When it comes to image compression, what types of compression are supported with GigE Vision 2.0?

V. Rowley: GigE Vision 2.0 will support JPEG 2000, JPEG, and H.264.

You also mentioned transport efficiency as one of the enhancements, can you tell me a bit more about that?

V. Rowley: Colloquially, this enhancement has sometimes been referred to as frame-packing, but that's a misleading term. I prefer using the term transport efficiency because what GigE Vision 2.0 enables is a more efficient transport – that is, less overhead – of small images at high frame rates. This can be useful, for instance, in high-speed inspection or sorting applications based on line-scan cameras.

Of these new features, which do you think system integrators will be most interested in?

V. Rowley: I'd have to say higher data rates. Although the current version (1.2) of the standard does allow for unlimited data rates to be transferred from cameras to host computer over a single Ethernet physical link, version 2.0 will formally introduce 10 Gigabits/second.

In response to the market demand for greater speed, alternative video interfaces, such as CoaXPress and Camera Link HS are coming on the market, but they're really new. GigE Vision is a proven, field-tested vision standard. And Ethernet is so ubiquitous that it makes sourcing hassle-free. I think the combination of the already-existing demand for greater speed with the release of GigE Vision 2.0 will likely grow the adoption rates of 10 GigE interfaces in markets such as medical imaging, military and machine vision. In addition, this may result in a market pull for vendors to add 10 GigE interfaces to their products.

The other thing to mention is that GigE Vision 2.0 will support link aggregation. While faster data rates can be achieved by implementing the IEEE 802.1AX link aggregation protocol, in practice, link aggregation can be limited because of drawbacks like its larger footprint and complex cabling requirements. Despite these drawbacks, dual aggregation might make sense for some scenarios, but it's unlikely we'll ever see market demand for more than two GigE connectors on one transmitter because it's just not practical. And there is

Vincent Rowley, System Architect, Pleora Technologies Inc. and Vice-Chair, GigE Vision Technical Committee

no guarantee that link aggregation will actually work in a networked environment, so one needs to keep that in mind as well.

Speaking of market pull and vendors, what kind of PC is going to be required for 10 Gigabits/second?

V. Rowley: That's an interesting question because it's one I've heard before. Even some industry experts think that you need server-grade PCs or specialized hardware like frame grabbers to receive 10 GigE streams on PCs. But the fact of the matter is that today's standard, off-the-shelf PC can consume and process data at very high speeds with a suitable driver. We've done extensive testing that demonstrates that today's standard PC can be used to acquire, and to process, images at approximately 8 Gigabits/second when using Pleora's eBUS SDK.

▶ **Contact**
Pleora Technologies Inc., Kanata, ON, Canada
Tel.: +1 613 270 0625
Fax: +1 613 270 1425
info@pleora.com
www.pleora.com

USB 3.0: Open Up New Applications in Machine and Computer Vision

Michael Gibbons, Product Marketing Manager, Point Grey

In the past year, we have witnessed the widespread adoption of USB 3.0 in consumer devices and a groundswell of interest from both industrial and non-industrial customers. Since Point Grey demonstrated the world's first Super-Speed USB camera in September 2009, hundreds of USB 3.0 certified devices have been introduced to the market, including new hardware devices, chipsets, host controllers, interface cards, drives, hubs, and cables. Desktop and notebook computers equipped with newly available chipsets, such as the AMD A-Series APUs, enable users to build high-performance

and cost-effective imaging systems. Additional new technologies include Fresco Logic's FL1009, a second generation SuperSpeed USB host controller providing low-level connectivity between USB 3.0 devices such as a camera and interface card. Cypress introduced its EZ-USB FX3, a flexible USB 3.0 peripheral controller, enabling a wide variety of USB 3.0-capable video and imaging devices to be quickly and easily brought to market. And Texas Instruments launched a free-standing reference design for a four-port SuperSpeed USB 3.0 hub, an important part of building more complex camera networks.

A Draft of the USB 3.0 Vision Interface Standard at Vision 2011

While USB 3.0 generated increased buzz at last year's Vision in Stuttgart, we expect to see a number of USB 3.0 products available at the show floor this year. The Automated Imaging Association (AIA) began the development of the USB 3.0 Vision interface standard for machine vision and will present a draft of the standard at Vision 2011. Point Grey will be showcasing its new line of USB 3.0 Flea3

cameras offering a variety of high-resolution, high-speed, CMOS image sensors. When compared to the existing lineup of digital interfaces, USB 3.0 sits at the intersection of high data rate, power/data transmission over a single cable, ease-of-use and cost-effectiveness. Thus USB 3.0 promises to open up new applications in machine and computer vision, as well as non-industrial markets where USB 2.0 already has widespread acceptance. The increased 500 MByte/s throughput and improved 4.5 W of power delivery are well-suited for many of the high-speed, multi-megapixel image sensors on the market today. The USB 3.0 specification provides power and data over a single cable; has guaranteed, truly isochronous bandwidth; and is well-matched to applications requiring small size and low cost.

▶ **Contact**
Point Grey Research Inc.
Richmond, BC, Canada
Tel.: +1 604 242 9937
Fax: +1 604 242 9938
info@ptgrey.com
www.ptgrey.com

FireWire: Popular Interface for Many Applications

Henning Staerk, Senior Director Customer Relationship Management

FireWire has been extremely successful in the past as a camera interface for machine vision applications and it is still the interface of choice for many of our customers. One reason for that is that the IEEE 1394 protocol enables extremely accurate timing for camera

triggering and synchronization of multi-camera systems, which is a key asset in many industrial applications. In the meantime, other attractive interfaces such as GigE Vision, CoaXPress, Thunderbold or USB 3.0 have appeared in the market, each of them offering their own specific benefits. First camera implementations of the IEEE 1394b S1600 standard with extended bandwidth (1.6 GB/s) were also demonstrated at the Vision Show in November 2010.

At Allied Vision Technologies, we believe that the ultimate interface technology covering the full scope of application profiles is yet to be found, which is why we offer different camera interfaces for different applications and will keep on expanding our technology portfolio according to market requirements in the future. However, not all industrial inspection applications require a very high resolution or long cable lengths. Therefore, in spite of the variety of alternative

interfaces, we expect that FireWire will still be a popular interface for many applications in the years to come because of its highly deterministic bus control capabilities, its plug-and-play ease of use, its affordable cost and last but not least because of its huge existing customer basis all over the world.

▶ **Contact**
Allied Vision Technologies
Ahrensburg, Germany
Tel.: +49 4102 668 815
Fax: +49 4102 668 810
info@alliedvisiontec.com
www.alliedvisiontec.com

Thunderbolt: The Major Standard Interface in Industrial Automation?

Thunderbolt – developed by Intel – was introduced on Apple's MacBook Pro on February 24, 2011 and is now available on the iMac and on some RAID systems. Also, several computer and PC peripheral vendors have announced support for Thunderbolt for their notebooks and storage, network and professional camera devices. The interface offers a host of advantages for our customers as well as for other users. It is more convenient than USB, offers performance exceeding that of Camera Link or 10GigE, and requires only the power budget of CoaX-Press – all at the moderate price of GigE and Firewire.

A Look on the Advantages

Let's take a closer look at these three advantages: cost, performance and convenience. First, using the technology is simply less expensive. The copper cable used with Thunderbolt provides 10 Gb/s connectivity at a lower cost than is possible with other solutions. No frame grabber is needed, and in 2012 we will begin to see motherboards with integrated Thunderbolt controllers. In terms of performance, image data and control path latency are both measured in nanoseconds, while the camera sits on a PC local bus. The latter point is especially important. All imaging systems involve transfer of data from the sensor to memory. In most cases, additional protocols are needed to determine where data is placed in the memory, and this requires additional overhead, additional resources. With the Thunderbolt interface, the camera decides where in the memory the data will be stored. Effectively, the interface extends the local bus infrastructure. There is no need for protocols, packets, headers, trailers or encapsulation. This facilitates implementation of the "zero copy paradigm," where image data is never stored or repackaged before the final destination, and is available for processing within nanoseconds.

The reduced overhead is exactly where we see the major advantage and benefit of the Thunderbolt interface. Each interconnect in an overall system reduces the reliability. Because the interface requires fewer components, fewer logical steps and less software, it contributes to higher reliability and better performance.

Vasant Desai, Managing Director Ximea

The Plan of Intel for 2015

We often say that our products bring intelligence to the front end of imaging systems. Thunderbolt provides the opportunity to take advantage of that intelligence. Our customers could benefit from the enhanced performance, and without incurring any additional costs due to integration. All of our products with a Thunderbolt interface – whether the Currera, a camera with an onboard PC; other cameras that we offer; or emerging products – natively support several leading IP libraries. These include Cognex Vision-Pro, MVTec Halcon, National Instruments LabView, Stemmer Common Vision Blox and others, with the list of supported libraries increasing almost weekly.
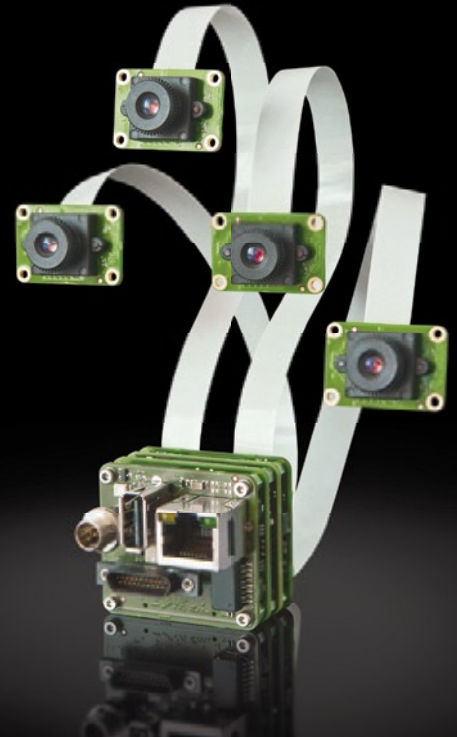
Finally, because Thunderbolt is a standard interconnect, users can take advantage of reusable consumer market components such as connectors, cables and repeaters. It's important to note that in 2015 Intel plans to upgrade Thunderbolt to 100 m connectivity at 50 Gb/s over optical cable, while maintaining backward compatibility of the connectors. This will lead to even greater strides in enhanced performance.

Thunderbolt has all the features to become the major standard interface in industrial automation in general, and in machine vision in particular. Depending on Intel's commercialization strategies, we feel it has a strong chance of superseding 1394A/B, USB and Camera-Link and, with the upcoming optical upgrade, surpassing the CameraLink HS, CoaXPress and CameraLink 2 as well.

▶ **Contact**
Ximea GmbH, Münster, Germany
Tel.: +49 251 590 686 0
Fax: +49 251 590 686 99
info@ximea.com
www.ximea.com

Camera Link-HS: Release of the 1st Specification in November 2011

The 19 member companies of AIA's Camera Link-HS committee are planning to release their first specification in November 2011. Member companies are allowed to sell PreRelease product with the understanding that the standard may change. The Camera Link HS technology is based on field proven Teledyne Dalsa's HSLink and off the shelf components available from multiple suppliers. Capabilities found in Camera Link HS include:

- Fiber Optic SFP connection defined for the lowest BW solutions of 300MByte/sec achieving 300 m distance.
- 2 GByte/sec capability in a single C2 cable achieving 15 m distance.
- Off the shelf transmission technology from multiple vendors ensuring low cost and long service life.
- 7 low latency, low jitter (3.2ns pk-pk) pulse or trigger types.
- A Pulse effectivity byte for commanding camera operating mode changes with each trigger.
- Vertical stripe data presentation for simple lane aggregation or data splitting.
- Protocol support for synchronizing multiple FGs sharing images from a single camera.
- 32 GPIO supported from FG to camera and visa/versa with low latency and minimal jitter.
- Command Channel with 150 MB/s uplink capability.
- Expandable Bandwidth for Video.
- Real time signals are single bit error tolerant for improved system reliability.
- 100% video data reliability achieved through hardware data resend ensuring low cost, low power camera head implementations are possible.
- Cameras are GenIcam.
- Plug and Play.
- Standardized LED.
- Revision 2 is scheduled for June 2012 and will include 10 Gbps per lane, other link speeds,and on-the-fly-Region of Interest definitions.

Camera Link-HS improves on all aspects of Camera Link and will be deployed in applications that use Camera Link today. Many of the committee member's first products will achieve higher than Camera Link speeds as CLHS excels in meeting system bandwidth needs. Examples include 1.1 Gpixel/sec Line Scan and TDI cameras and a 2.0 Gpixel/sec 4 Megapixel area array camera. The improved bandwidth per cable means customers have simplified systems with lower cable and system costs. The higher bandwidths enable more system throughput for a given sensor resolution. Alternatively a higher resolution sensor can be supported enabling a reduction in the number of cameras needed in multicamera systems.

Important Customer Benefits

Customers demand 100% reliable inspections and CLHS meets the challenge with its unique low latency data resend capability. The low latency means that the resend buffer can be implemented in the camera FPGA, resulting in low power, small size and lower cost when compared to competing standards. The customer demands for small camera heads and simplified cabling is met through the unique CLHS capability to deliver low latency trigger and GPIO from the frame grabber. This means that cameras don't need external GPIO or trigger inputs reducing size, cost and system wiring complexity. Camera vendors may choose to add GPIO connectors to their cameras to enable wiring an input/output control at the end of a 300 m fiber optic connection. This system level flexibility means that customers can choose the product feature set that best meets their needs. Frame grabber vendors will differentiate themselves on how the large quantity of data is processed. System configurations can include: data forwarding to multiple PCs, data splitting using lower cost frame grabbers.

With cameras having GenIcam capability, switching cameras is easy as the

committee is working hard to make it possible for frame grabbers to automatically configure to the camera settings. Ease of use will save customers time in getting new systems up and running.

The committee has developed reference designs available from the AIA. These reference designs ensure interoperability and reduce development costs for each manufacturer. The reference designs can also be used by customers to implement custom cameras or frame grabbers and eases adoption of the Camera Link-HS, the machine vision standard moving forward.

The 19 member companies of AIA's Camera Link-HS committee are: 3M, AIA, AnaFocus, Basler, Bitflow, Components Express, Teledyne Dalsa, EDT, Great River Technology, Intercon 1, JAI, Matrox, Mikrotron, National Instruments, PCO, Silicon Software, Stemmer, Toshiba Teli.

www.machinevisiononline.org

Michael Miethig, Technical Manager, Teledyne Dalsa

► Contact

Teledyne Dalsa, Waterloo, ON, Canada
Tel.: +1 519 886 6001
Fax: +1 519 886 2317
www.teledynedalsa.com

Office(s)

Allied Vision Technologies Canada Inc.
Canada
Tel.:+1 604 875 8855
Fax:+1 604 875 8856

Allied Vision Technologies Inc.
United States of America
Tel.:+1 877 USA 1394
Fax:+1 978 225 2029

Allied Vision Technologies Asia Pte. Ltd.
Singapore
Tel.: +65 6634 9027
Fax: +65 6634 9029

Management
Frank Grube, CEO

Foundation
1989

Staff
101-250

Products
Cameras, Interfaces/Cables/Peripherals, Optics

Applications
Character Recognition, Digitalization, Inspection Piece Parts, Inspection Webbed Material, Part Identification, Robot Vision 2D, Robot Vision 3D

Industries served
Automotive and Suppliers, Electronics/Semiconductors, Foodstuffs/Beverages, Mechanical Engineering/Line Building, Medical Technology, Pharmaceuticals/Cosmetics/Chemicals, Plastics, Precision Engineering/Optics/Machine Vision, Traffic/Logistics

Associations
AIA, EMVA, JIIA, VDMA

Regions served
Asia, Europe, Latin America, North America, national

About Allied Vision Technologies

Founded in 1989, Allied Vision Technologies GmbH of Germany is a 100 % subsidiary of the public Augusta Technologie AG. AVT designs, produces and sells cameras and components for image processing in various applications including industrial inspection, medical imaging, scientific experimentation, security, traffic monitoring, logistics and multimedia entertainment.

A Camera for Every Application

With innovative products, superior manufacturing quality and a service-driven organization, Allied Vision Technologies is well established as a premier provider of digital camera solutions for machine vision worldwide. Its product portfolio offers one of the widest choice of high-performance cameras in the market. Black-and-white, color, high resolution, high speed or infrared: for every application there is the right AVT camera.

Thanks to the AVT modular concept, a wide range of modifications are available such as angled heads or alternative cable outlets. For even more specific applications, AVT has developed an expertise in tailor-made camera solution development.

High Quality Made in Germany… and Canada

AVT cameras are manufactured according to the highest quality standards in the company's own production facilities located in Germany and Canada. Highly skilled staff and on-going investment in the state-of-the-art facilities guarantee the best possible product quality. Every single camera leaving Allied Vision Technologies' production undergoes a thorough test including operation under high temperature conditions.

First-Class Service, Worldwide

Allied Vision Technologies is represented in more than 30 countries worldwide by a network of distribution partners selected to offer a high level of service and support locally. The company has its own sales and support offices in Germany (Stadtroda), the USA (Newburyport, MA), Canada (Burnaby, BC), and Singapore.
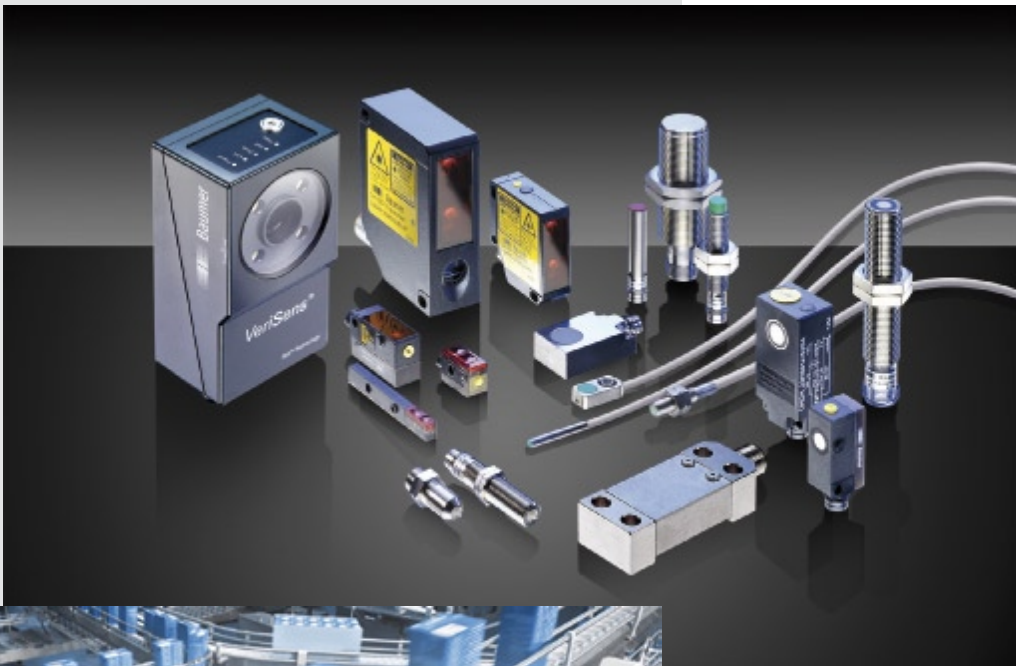
///ALLIED
Vision Technologies

Allied Vision Technologies GmbH
Taschenweg 2a
07646 Stadtroda
Germany
Tel.:+49 36428 677 0
Fax:+49 36428 677 24
info@alliedvisiontec.com
www.alliedvisiontec.com

J-1

with IP67 housing as well as cameras and network components for Power over Ethernet, the one cable solution for Gigabit Ethernet.

Smart Vision

Baumer VeriSens vision sensors close the gap between traditional photoelectric sensors and complex image processing systems. The user is provided with comprehensive functions which support numerous inspection tasks in automated production, like control of part completeness, control of part presence, or control of part location and identification. VeriSens vision sensors are characterized by an extremely compact design and, due to the innovative Baumer FEX processor technology, provide a process reliability in this class unachieved until now.

Sensor Solutions

Top performance in automation with leading sensor technology is our justified credo. The maximum performance, optimum reliability, the highest standards of safety in the minimum space at a fair price - these are the demands of the international markets on sensor technology for automation. Our products count, measure, sort and monitor. They identify size, position, colour, shape, defects, individual objects and much more. Your requirements are our challenge, which we have fulfilled millions of times throughout the world and daily fulfil to the satisfaction of manifold users.

About Baumer

Baumer is one of the leading international manufacturers of innovative and high-quality sensors and systems in factory and process automation. With about 2,500 employees worldwide and 250 employees (including some 100 engineers) in the area of industrial image processing, Baumer belongs to the leading companies in the vision industry. Our customers benefit from internationally comprehensive consultation and reliable service.

Digital Imaging

Baumer offers a wide range of industrial digital cameras and customized OEM camera modules, specifically designed for demanding image processing applications. The portfolio includes matrix cameras, with various color and monochrome sensors. Resolutions are available from VGA up to 8 megapixel. The digital cameras support state of the art interfaces, like Gigabit Ethernet, Dual GigE, CameraLink and FireWire. Next to that Baumer offers innovative developments, e. g. cameras

Management
Dr. Oliver Vietze, CEO and Chairman
Rüdiger Förster, Sales and Marketing
Rainer Klug, Operations
Severino Bruno, Finance

Foundation
1952

Staff
> 2500

Products
Cameras, Frame Grabber, Lighting Equipment, Network Components, Optics, Software, Vision Sensors

Applications
Character Recognition, Medical Imaging, Metrology 2D, Part Identification, Particle Analysis, Robot Vision

2D, Solar Cell Inspection, Surface Inspection, Symbol Recognition, Others

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

Associations
EMVA, AIA, VDMA

Regions served
Asia, Europe, Latin America, North America

Baumer GmbH
Pfingstweide 28
61169 Friedberg
Germany
Tel.: +49 6031 60 07 0
Fax: +49 6031 60 07 70
sales.de@baumer.com
www.baumer.com

F-1

About IDS Imaging Development Systems

Committed to industrial image processing since its foundation in 1997, IDS Imaging Development Systems GmbH has been widely known for its development of frame grabbers. Today IDS offers a comprehensive range of USB and GigE based industrial cameras, accessories and software tools "made in Germany". The uEye camera series currently comprises over 1,200 model variants. They cater not only to the classical image processing markets, such as industrial automation and quality assurance, but also to the upcoming "new markets" of image processing, such as security technology and the non-industrial segment.

The uEye Camera Series

All uEye cameras boast an extremely compact design. The industrial cameras are available with high-quality CCD or CMOS sensors, with monochrome or color technology. The resolution ranges from 640 x 480 pixels to up to ten megapixels. The uEye RE and uEye LE versions are optimized for their intended uses. RE if tough is not tough enough, LE – as little as possible. The GigE uEye series cameras extend the broad range of USB cameras by fast models for demanding machine vision tasks. The all new GigE uEye CP features Power-over-Ethernet and modern CMOS sensors in the smallest housing possible, making it the ideal replacement for analog cameras. The USB uEye ME is a versatile and robust all-round camera with angled housing that provides for easy integration into machines with little space. Compact, small, powerful – with their design, mainstream bus technologies and high resolution sensors, the uEye industrial cameras perfectly meet the requirements of modern image processing.

Custom-made Cameras

Even though the uEye series features over 1.200 different models, not all the specific demands of OEM customers can be met at a satisfactory level by using the standard models. To accommodate these requirements, IDS also develops customized and project-related solutions.

Optimum Software Support

The powerful uEye software development kit (SDK) forms the basis. Demo programs for an easy camera configuration allow finding the best settings without previously programming a single line of code. The source code of the demo programs offers developers a useful programming basis. Direct interfaces are additionally provided for many current image processing libraries, such as Common Vision Blox, Halcon or LabView and the new universal camera interface standard GenICam will achieve shortest integration times for image processing.

Professional Service

Competent services complement and complete the product portfolio. They include, e.g., application consulting, support during system integration and the design- in phase, feasibility studies, product leasing, and software training. IDS has more than 90 employees at its head office in Obersulm, Germany, its subsidiary IDS Inc. in Woburn, USA and the representative offices in Japan and France. IDS is represented in almost all European countries as well as the Americas and Asia Pacific through exclusive distributors.
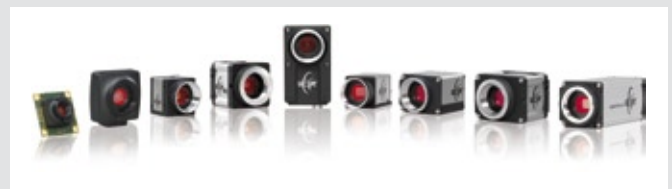
Office(s)

IDS Imaging Development Systems
400 West Cummings Park, Suite 3400
01801 Woburn, MA
United States of America
Tel.: +1 781 787 0048
usasales@ids-imaging.com

IDS Imaging Development Systems
Shinagawa-ku, 5-19-2-203
Kita Shinagawa
141-0001 Tokyo, Japan
c.vdploeg@ids-imaging.com

IDS Imaging Development GmbH
5-7 Rue Sauval
75001 Paris, France
m.mahmoudi@ids-imaging.fr

Management

Jürgen Hartmann, CEO/Shareholder
Armin Vogt, CTO/Shareholder
Torsten Wiesinger, CEO Sales & Marketing

Foundation

1997

Staff

51-100

Products

Cameras, Consulting, Frame Grabber, Interfaces/Cables/Peripherals, Optics, R&D, Software

Applications

Character Recognition, Digitalization, Inspection Piece Parts, Inspection Webbed Material, Material Testing, Metrology 2D, Metrology 3D, Part Identifickation, Particle Analysis, Robot Vision 2D, Robot Vision 3D, Symbol Recognition, Traffic Control, Security/Surveillance Systems

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, Security/Surveillance

Associations

AIA, EMVA, VDMA

Regions served

Asia Pacific, Europe, Latin America, North America, national

Companies represented
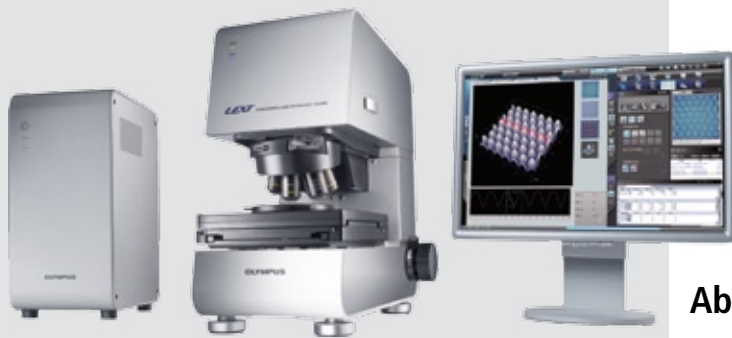
MVTec (Germany only), SVS-Vistek (Germany only)

IDS Imaging Development Systems GmbH
Dimbacher Str. 6-8
74182 Obersulm
Germany
Tel.: +49 7134 961 96 0
Fax:.+49 7134 961 96 99
info@ids-imaging.com
www.ids-imaging.com

HN-1

Management
Michael C. Woodford
President and Executive Officer

Frank Drewalowski
Managing Director
Medical Systems & Micro-Imaging
Solutions Group

Michael Czempiel
Director
Micro-Imaging Solutions Division

Foundation
1963

Staff
> 5000

Products
Cameras, Lighting Equipment, Microscopes, Optical Instruments, Optics, Software

Applications
Digitalization, Inspection Piece Parts, Material Testing, Metrology 2D, Metrology 3D, Part Identification, Particle Analysis

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

Regions served
EMEA

Olympus Europa Holding GmbH
Wendenstr. 14–18
20097 Hamburg
Germany
Tel.: +49 40 23773 0
Fax: +49 40 23773 4647
microscopy@olympus-europa.com
www.microscopy.olympus.eu

See our ad on page · **Back Cover** · HH-1

About Olympus Europa Holding

Quality, Experience and Innovation

Olympus Microscopy: Meeting Industrial Quality Standards and Scientific Discovery Needs

For over 80 years, Olympus has been one of the world's leading manufacturers in the opto-digital industry. As one of the biggest and most respected providers of microscope systems, Olympus offers a comprehensive portfolio of professional solutions for all market requirements. These range from entry-level inspection microscopes to high-end systems, enabling pioneering research and routine applications in material science and metallography.

From Conventional Microscopy to Advanced Digital Imaging Solutions

Microscopy is an indispensable tool for material science, as well as industrial research, development and inspection. Modern manufacturing processes demand the most professional and precise microscope system solutions, while users expect a reliable, first class service. To this end, Olympus develops hardware and software tailored for microscope-based digital imaging, in which all components are optimally integrated to provide a complete systems solution. With its spectrum of products, Olympus covers the requirements of all market areas with systems for inspection and metrology, as well as devices for scientific research.

Cutting Edge 3-D Surface Metrology: – The Lext OLS4000

As the latest addition to the hardware portfolio, the Lext OLS4000 confocal laser microscope combines high resolution (down to 120 nm) with outstanding slope detection capabilities up to 85° and easy operation. Enabling advanced research and routine inspection in material science, the Lext OLS4000 incorporates a 405 nm laser and dual pinholes, ensure outstanding clarity and resolution is provided. As a result, even the most complex surface topologies can be imaged and analysed.

Documentation and Analysis Technologies – Stream 1.6

Olympus offers the Stream 1.6 software suite, making advanced analysis and archiving easy to perform for all users, regardless of expertise. By displaying only the required features at any given time, Olympus Stream provides the ideal level of complexity to effectively meet any user requirements. Furthermore, this software is completely future-ready, with the ability to support the ever increasing demand for high quality imaging and analysis. These advances include large scale client/server data management solutions, virtual microscopy, online discussions and real time measurements.

About Point Grey Research, Inc.

Point Grey Research, Inc. is a worldwide leader in the development of advanced digital camera technology products for machine vision, industrial imaging, and computer vision applications. Based in Richmond, BC, Canada, Point Grey designs, manufactures and distributes IEEE-1394 (FireWire), USB 2.0, Gigabit Ethernet, and Camera Link cameras that are known for their excellent quality, performance, and ease of use. A broad range of hardware, software and mechanical engineering skills has allowed Point Grey to successfully bring many innovative and ground-breaking products to market. This drive for innovation has led to many industry firsts, including the first and smallest 1394b digital camera.

Since being 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 125 people worldwide, and has a wholly-owned subsidiary in Germany that provides sales and support services to customers in Europe, Africa, and Israel. Point Grey's office in Japan works closely with the company's network of distributors in Japan, Korea, China, Singapore, and Taiwan.

End-to-End Imaging Solutions

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 13 years has created a diverse portfolio of digital cameras, peripheral components, and software.

Point Grey offers more than 150 different single-lens, stereo, and 360-degree spherical digital cameras, with a variety of monochrome and color CCD and CMOS image sensors from VGA to 5 megapixels. Many product families also offer board-level or customized options for specific OEM applications. In addition, Point Grey has introduced its FirePro line of professional FireWire hubs, repeaters, and host adapter cards, which are designed to maximize the effectiveness and reliability of the entire imaging pipeline.

Quality, Service and Support

All Point Grey cameras and FirePro products are built using state-of-the-art manufacturing facilities, located in the company's 41,000 square-foot (3,800 m²) corporate headquarters. These facilities include dedicated SMT lines, AOI and X-ray machines, industrial clean room, and automated test stations.

The "Seal of Quality" label that is applied to each Point Grey 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.

Point Grey is also proud to offer world-class support on installation, configuration, customization and troubleshooting.

Office(s)
Headquarter
Point Grey Research, Inc.
12051 Riverside Way
V6W 1K7 Richmond, BC
Canada
Tel.: +1 604 242 9937
Fax: +1 604 242 9938
info@ptgrey.com

Management
Vladimir Tucakov,
Director of Business Development

Joerg Clement,
Business Development Manager
Europe

Foundation
1997

Staff
100 – 200

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

POINT GREY

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-2

About CTR

CTR is an industry-oriented R&D centre.

We help companies to optimise existing procedures and develop new solutions in the field of automated process and quality control by applying the latest technological advances of sensor systems. This leads to greater reliability, smaller designs and thus higher profitability in production.

Our expertise covers the complete R&D chain – feasibility studies, conception, tests, prototyping and individual system/product solutions. CTR has been awarded over 50 patents and is also certified according to ISO 9001/2000.

Medical classification with Spectral Imaging
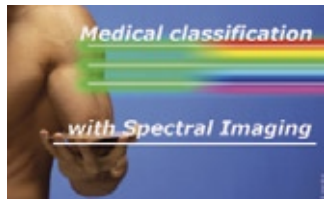
Competence

Optical sensors (x-Ray-UV–VIS–NIR-MIR-IR-THz), spectral imaging, spectroscopy, image processing, high speed raman, laser technology, terahertz spectroscopy, fluorescence spectroscopy, chemometry, statistical classification, software development, handling/automation technologies, optical simulation/design, microsystems, SAW sensor systems.

CTR – Carinthian Tech Research AG
Technologiepark Villach
Europastr. 4/1
9524 Villach
Austria
Tel.: +43 4242 56300
info@ctr.at
www.ctr.at

See our ad on page **47**

VI-1

Management
DI Simon Grasser – Managing Director
simon.grasser@ctr.at
Raimund Leitner – R&D machine vision/ molecular imaging
raimund.leitner@ctr.at
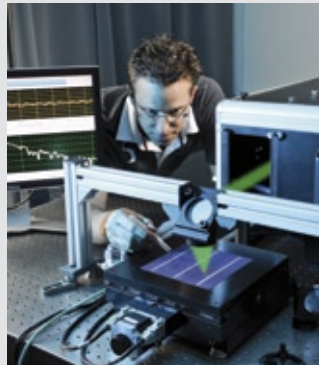
Foundation
1997

Staff
11-50

Applications
Character recognition, high speed analysis, industrial inspection, part identification, particle analysis, machine vision, cell imaging, industrial sorting, robot vision 2D/3D, thermography, optical simulation

Industries served
Life sciences, medical, biomedical science, pharmaceuticals/cosmetics/chemicals, foodstuffs/beverages, plastic/paper/wood industry, textile/ leather industry …

Associations
Other

Regions served
Central Europe, Europe, North America, national

About Flir Advanced Thermal Solutions

Flir – the Global Leader in the Design, Manufacture and Marketing of Thermal Imaging Infrared Cameras

Flir Systems is a leading manufacturer of innovative imaging systems that include infrared cameras, aerial broadcast cameras and machine vision systems.

Pioneers in the commercial infrared camera industry, the company has been supplying thermography and night vision equipment to science, industry, law enforcement and the military for over 50 years. From predictive maintenance, condition monitoring, non-destructive testing, R&D, medical science, temperature measurement and thermal testing to law enforcement, surveillance, security and manufacturing process control, Flir offers the widest selection of infrared cameras for beginners to pros.

With over 60 offices and the largest installed infrared camera base in the world, Flir offers its customers unparalleled service, the best post-sale technical applications support available and world-class infrared camera and thermography applications training.

SC 5000-Serie FLIR

Office(s)
More than 60 offices worldwide

Staff
> 1000

Products
Cameras, Optics, R&D, Software, Vision Sensors

Applications
Inspection Piece Parts, Material Testing, Thermography

Industries served
Automotive and Suppliers, Electronics/Semiconductors, Energy/Water/ Solar Technology, Medical Technology, Packaging, Pharmaceuticals/ Cosmetics/Chemicals, Precision Engineering/Optics/Machine Vision, Traffic/Logistics

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

Flir Advanced Thermal Solutions
19, bld Bidault
77183 Croissy-Beaubourg, France
Tel.: +33 1 41 33 97 97
Fax: +33 1 64 11 37 55
info@flir.com
www.flir.com

See our ad on page **58**

F-1

About Framos

Since 30 years, Framos GmbH serves customers in the field of industrial image processing. We offer a comprehensive range of sensors, cameras and image processing components as well as development support services and complete solutions for image processing applications.

Our 30 years of experience add up to 30 years of participation in the evolution of a revolutionary new technology. The spirit of innovation and development of our early days has remained at the heart of our company and defines our three areas of business:

- Imaging Products – Components for image processing
- Engineering Support – Development support for cameras, modules and software
- Imaging Solutions – Customized image processing solutions

Framos GmbH
Zugspitzstraße 5c
82049 Pullach/Munich
Germany
Tel.: +49 89 710667 0
Fax: +49 89 710667 66
info@framos.de
www.framos.de

See our ad on page **97**

M-1

Office(s)
Framos Electronics Limited, UK
Tel.: +44 1276 404 141
info@framos.co.uk

Framos Italia srl, Italy
Tel.: +39 039 68 99 635
info@framos.it

Framos France, France
Tel.: +33 1 39 52 07 82
info@framos.fr

Management
CEO: Dr. Andreas Franz

Staff
11-50

Products
Cables, Cameras, Camera modules, Framegrabber, GigE converter, Image senors, Interfaces, Lenses, Lighting, Software & Tools

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
EMVA, VDMA, AIA, HybridSens, SwissT.net, Sensors Bavaria

Companies represented
Sony, Aptina, Pleora Technologies, Lumenera, Toshiba Teli, Smartek, Visiosens, Sunex, Fujinon, Schott Moritex, Schneider Kreuznach, Northwire, AlysiumTech, Pentax, Viimagic, PhotonFocus, Videology, Tamron, Boulder Imaging, Pacific Corporation, Trimble, Euresys, SVS Vistek, Vision+Control, Falcon, Effilux, Norpix, VisionTools

About Fujinon

Fujinon is one of the foremost pioneers in the development of optical technology. Based on continuous research, long experience and leading quality Fujinon is able to provide products of the highest standard in the world.

Special tasks in image processing require a special lens and Fujinon offers the appropriate solution for almost every application. Whether with a high resolution of 5 megapixels or with 1.5 megapixels in fixed focal lengths, as zoom lenses or fisheye lenses, for 3 CCD cameras or UV optics

– each model is characterized by first-class Fujinon quality: high resolution and precise optics with minimized distortion for optimal image quality. The compact design also makes it very easy to incorporate these lenses into your existing system.

Products
Optics

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, Medical Technology, Packaging, Precision Engineering/Optics/Machine Vision, Traffic/Logistics

Regions served
Africa, Central Europe, EMEA, Europe

FUJINON

Fujifilm Europe GmbH
Optical Devices
Heesenstr. 31
40549 Düsseldorf
Germany
Tel.: +49 211 5089 0
cctv@fujinon.de
www.fujinon.eu

See our ad on page **35**

D-1

About Hexagon Metrology

Hexagon Metrology brands represent an unrivaled global installed base of millions of Coordinate Measuring Machines (CMMs), portable measuring systems and handheld instruments, and tens of thousands of metrology software licenses. Hexagon Metrology empowers its customers to fully control manufacturing processes that rely on dimensional precision, ensuring that products manufactured precisely conform to the original product design. The company offering of machines, systems and software is complemented by a wide range of product support, aftermarket and value-added services.

Hexagon Metrology
World Headquarters Office
Cedar House
78 Portsmouth Road
Cobham, Surrey, KT11 1AN, United Kingdom
Tel.: +44 20 7068 6540, Fax: +44 20 7068 6556
marketing@hexagonmetrology.com
www.hexagonmetrology.com

UK-1

See our ad on page 85

Office(s)
All regional contacts are available from our website:
www.hexagonmetrology.com

Management
Norbert Hanke, President

Foundation
2001

Staff
> 1000

Products
CMM, Optical Instruments, Software, Turn-key Systems, Vision Sensors

Applications
Digitalization, Inspection Piece Parts, Metrology 2D, Metrology 3D

Industries served
Automotive and Suppliers, Electronics/Semiconductors, Energy/Water/Solar Technology, Foodstuffs/Beverages, Medical Technology, Metal, Packaging, Paper/Wood, Pharmaceuticals/Cosmetics/Chemicals, Plastics, Precision Engineering/Optics/Machine Vision
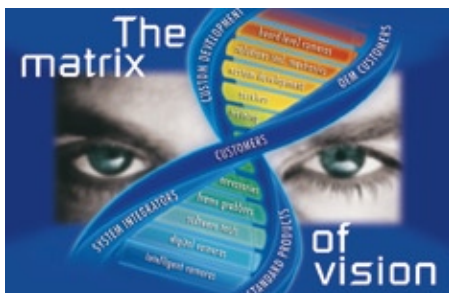
Regions served
Africa, Asia, Australia, Central Europe, China, EMEA, Europe, Japan, Latin America, North America, national

Companies represented
Leica Geosystems AG, Tesa SA, m&h Inprocess and all Hexagon Metrology companies worldwide

About JAI A/S

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 1-CCD 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 cameras plus a complete family of 4-CCD and 3-CMOS line scan cameras. JAI's product program includes cameras for visible, UV and NIR imaging with GigE Vision and Camera Link interfaces.

See the possibilities

See our ad on page 69

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-1

Office(s)

JAI Germany
Germany
Tel.: +49 6022 26 1500
camerasales.emea@jai.com

JAI Inc. USA
United States of America
Tel.: +1 408 383 0300
camerasales.americas@jai.com

JAI Ltd. Japan
Japan
Tel: +81 45 440 0154
camerasales.apac@jai.com

Management
Jørgen Andersen, CEO
Masao Watabe,
President of JAI Ltd. Japan
Flemming W. Maunsbach,
Group VP of Finance
Wesley Okeke, Sales Director USA
Michael S. Lund, Sales Director EMEA

Foundation
1963

Staff
101-250

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

Applications
Character Recognition, High Speed Analysis, Inspection Piece Parts, Inspection Webbed Material, Material Testing, Metrology 2D, Part Identification, Particle Analysis, 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
Africa, Asia, Australia, Central Europe, China, EMEA, Europe, Japan, Latin America, North America, national

About Kappa optronics GmbH

Expert for Customer Series

The well-established German camera manufacturer focuses on customer-specific industrial camera solutions.

Kappa's Strong Point: Rugged Cameras

Kappa develops and manufactures rugged cameras for extreme environments.

De Novo Development

Due to its innovation capacity and profound experience Kappa is an expert partner for challenging visualization projects.

The Kappa Camera Line

Kappa's relatively small but distinct line of high-performance cameras also serves as a platform for economic customer-specific adaptations.

Kappa optronics GmbH
Kleines Feld 6
37130 Gleichen
Germany
Tel.: +49 5508 974 0
Fax: +49 5508 974 109
info@kappa.de
www.kappa.de

See our ad on page **95**

GÖ-1

Office(s)
Kappa optronics GmbH
Bureau France
France
Tel.: +33 561 27 82 81
Fax: +33 561 27 81 15
info@kappa-vision.fr

Kappa optronics Inc.
United States of America
Tel.: +1 626 256 43 43
Fax: +1 626 256 64 84
info@kappa-optronics.com

Management
Jürgen Haese, CEO
Karl-Heinz Bornemann, Director of Sales and Marketing
Christian Koziol, Kappa USA, Director of Sales
Christophe Tourné, Kappa France, Key Account Manager

Foundation
1978

Staff
51-100

Products
Cameras, Consulting, R&D, Software, Other

Applications
Digitalization, Inspection Piece Parts, Inspection Webbed Material, Material Testing, Metrology 2D, Part Identification, Particle Analysis, Robot Vision 2D, Robot Vision 3D, 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, EMVA, VDMA, Other

Regions served
Asia, Central Europe, China, EMEA, Europe, North America, national

About LMI Technologies Inc.

LMI Technologies is a leading developer of 3D measurement sensors for production optimization and quality control in Factory Automation and Industrial Control systems. During the past 30 years we have registered over 100 patents and deployed more than 60,000 sensors world-wide in some of the harshest working environments imaginable. Our product portfolio includes Gocator; an all-in-one, stand-alone, smart 3D sensor capable of a variety of metrology and error proofing solutions. Simple to deploy using a web browser, built-in measurement tools, rich I/O, and open source SDKs, Gocator opera- tors can reliably scans parts in 3D without extensive training. For more information about LMI, visit us online at www.lmi3D.com.
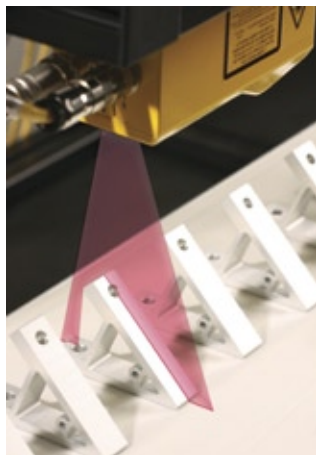
LMI Technologies Inc.
1673 Cliveden Avenue
V3M 6V5 Delta, BC
Canada
Tel.: +1 604 636 1011
Fax: +1 604 516 8368
info@lmi3d.com
www.lmi3d.com

BC-1

Office(s)
LMI Technologies BV
Valkenburgerweg 223
6419 AT Heerlen
Netherlands
Tel.: +31 45 8507000
Fax: +31 45 5742500

Management
Terry Arden, CEO
Kevin Brown, Director of Sales
Richard Whitehead, Director of Marketing

Foundation
1976

Staff
51-100

Products
Consulting, Optical Instruments, R&D, Software, Turn-key Systems, Vision Sensors, Other

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

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

Associations
AIA, EMVA

Regions served
Asia, Europe, Latin America, North America, national

Companies represented
LMI Technologies

About Matrix Vision GmbH

For 25 years Matrix Vision develops in conjunction with its system partners components and solutions for various industrial sectors. Effective solutions are in demand, not only in quality control of high-speed manufacturing processes with a high information density such as in the automobile industry or in mechanical engineering. The fields of surveillance, robotics, electronics, chemicals, pharmaceuticals, foodstuffs, printing, photography, microscopy and medicine also place high demands on the hard- and software of image processing systems. Matrix Vision bears all this in mind with an extensive range of products.

Beside our standard products we offer custom-specific OEM solutions, which provide maximum utility for the user as a result of continuous development.

Matrix Vision GmbH
Talstr. 16
71570 Oppenweiler
Germany
Tel.: +49 7191 9432 0
Fax: +49 7191 9432 288
info@matrix-vision.de
www.matrix-vision.de

S-1

Office(s)
Matrix Vision France
Tel.: +33 1 39429216
Mobile: +33 608860979
info-france@matrix-vision.com

Matrix Vision Italy
Tel.: +39 0308982839
Mobile: +39 3403161382
info-italy@matrix-vision.com

Management
Gerhard Thullner, General Manager
Dietmar Unser, Sales Manager
Marcus Bleise, International Sales Manager

Foundation
1986

Staff
51-100

Products
Cameras, Frame Grabber, Lighting Equipment, Optics, Processors, R&D, Smart Cameras/Embedded Systems, 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, EMVA, Symop, VDMA, Other

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

About NET GmbH

NET GmbH is a manufacturer of high quality CCD and CMOS cameras for imaging solutions. The product line includes industrial and OEM board level cameras for a wide variety of applications in the industrial and medical field. The extensive range of vision cameras contains different interfaces like FOculus (IEEE1394), GimaGO (GigE) as well as iCube (USB2.0). NET offers an extensive range of board level cameras and camera heads as well as customized solutions.

Lenses, illumination and cable assemblies are offered as well. All of these products can be sourced either in Europe through NET GmbH or NET Italia S.r.l. for the Italian market or its wide distribution network through NET USA, Inc. and NET Japan Co., Ltd.

NET New Electronic Technology GmbH
Lerchenberg 7
86923 Finning
Germany
Tel.: +49 8806 9234 0
Fax: +49 8806 9234 77
info@net-gmbh.com
www.net-gmbh.com

A-1

Office(s)
Japan
NET Japan Co., Ltd.
Tel.: +81 45 478 1020
Fax: +81 45 476 2423
info@net-japan.com

USA
NET USA, Inc.
Tel.: +1 21 9 934 9042
Fax: +1 219 934 9047
info@net-usa-inc.com

Italy
NET Italia S.r.l.
Tel.: +39 030 5237163
Fax: +39 030 5033293
info@net-italia.it

Management
Jean-Pierre Heinrichs, CEO

Foundation
1996

Staff
11-50

Products
Cameras, Interfaces/Cables/Peripherals, Lighting Equipment, Optics

Applications
Character Recognition, Inspection Piece Parts, Inspection Webbed Material, Material Testing, 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

Associations
AIA , EMVA

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

Companies represented
VS Technology Corp., Toshiba Teli Corp., DCM Sistemes S.L.

Opto Sonderbedarf GmbH

Opto is a developer and manufacturer of optical inspection modules, systems and accessories. Opto works closely with its customers to provide solutions in industrialized microscopic imaging, module integration and optomechanical engineering. Opto is able to develop class-leading solutions in microscopic imaging and inspection, and specializes in the development of high-performance, envelope-optimized optical inspection modules for machine integration.

Opto develops microscopy-based imaging and inspection solutions to a wide variety of mission-critical applications including surgical imaging, semiconductor processing and testing, laser ophthalmology, and high throughput cellular imaging.

Opto Sonderbedarf GmbH
Lochhamer Schlag 14
82166 Gräfelfing
Germany
Tel.: +49 89 898055 0
Fax: +49 89 898055 18
info@opto.de
www.opto.de

See our ad on page **83**

M-2

Office(s)
Opto France S.A.R.L.
Tel.: +33 450 605822
info@opto-france.com

Opto UK Ltd.
Tel.: +44 151 346 2112
info@opto-uk.com

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

Foundation
1980

Staff
11-50

Products
Consulting, Interfaces/Cables/Peripherals, Marketing, Microscopes, Optical Instruments, Optics, R&D, Software, Turn-key Systems, Vision Sensors

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

Associations
AIA, EMVA, VDMA

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

About Polytec GmbH

For over 40 years Polytec develops and manufactures high-quality measurement systems for the analysis of vibration, length, speed and surface topography. Furthermore Polytec manufactures optical spectrometer systems and components for various applications in process analytics.

Another focus is the distribution and service for optoelectronic components and modules as well as complete measurement systems for various applications. Polytec focuses on machine vision, lasers and laser systems, fiber optic sensing, optical telecommunication, optical radiation measurement, spectroscopy, semiconductor and photovoltaics, metrology as well as on electro-optical test systems.

Polytec has staffed offices throughout Europe, North America and Asia.

Polytec GmbH
Polytec-Platz 1-7
76337 Waldbronn
Germany
Tel.: + 49 7243 604 0
Fax: + 49 7243 699 44
info@polytec.de
www.polytec.de

KA-1

Office(s)
worldwide: see www.polytec.com

Foundation
1967

Staff
101-250

Products
Cameras, Integration Services, Lighting Equipment, Optical Instruments, Optics, Smart Cameras/Embedded Systems, Software, Topography

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

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
EMVA, VDMA

Regions served
Central Europe

Companies represented
Allied Vision Technologies, Allison Park Group, AOS Technologies, Basler Vision Technologies, Fujinon, LATAB, Midwest Optics, Mikromak, National Instruments, Navitar, Norpix, Pentax, Planistar, QiOptic, Schneider, Schott, Sony, Spectrum Illumination, Tordivel, Watec

About Silicon Software GmbH

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. Advantage of this technology is the programmability of the on-board vision processor allowing to realize a broad range of real-time applications. Silicon Software delivers acquisition applets with sophisticated pre-processing functionality as well as SmartApplets with partial application solutions with its products.

Further focus is the VisualApplets product line. The graphical software tool dramatically eases the programming of vision processor hardware. Even software programmers and application engineers will be able to implement demanded and time-critical applications on FPGA hardware in a very short time.

SILICONSOFTWARE

Silicon Software GmbH
Steubenstrasse 46
68163 Mannheim
Germany
Tel.: +49 621 789 507 0
Fax: +49 621 789 507 10
info@silicon-software.de
www.silicon-software.de

See our ad on page **51**

MA-1

Management
Dr. Ralf Lay, CEO
Dr. Klaus-Henning Noffz, CEO

Foundation
1997

Staff
11-50

Products
Frame Grabber, Software, Other

Applications
Character Recognition, Digitalization, 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, 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, EMVA, VDMA, Other

Regions served
Africa, Asia, Australia, Central Europe, China, EMEA, Europe, Japan, Latin America, North America, national
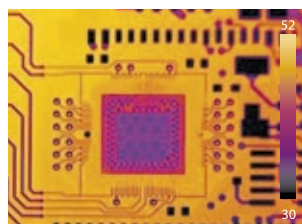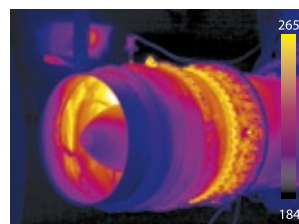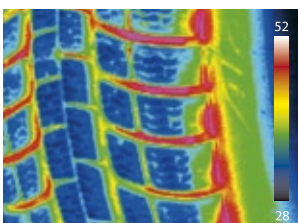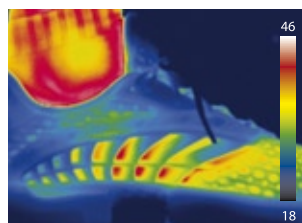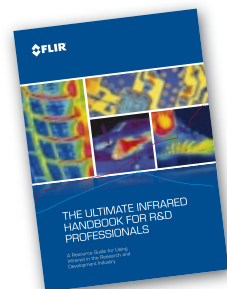
About Stemmer Imaging
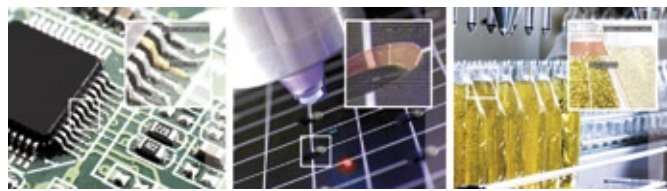
Stemmer Imaging is Europe's largest imaging technology and service provider with subsidiaries in Germany, United Kingdom, France and Switzerland. Our customers have access to a wide variety of imaging products and solutions from the world's leading manufacturers who provide cutting edge vision technology 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 more than 30 years in imaging and a comprehensive support by a staff of more than 150 employees allows us to offer you everything you need to solve your imaging task.

Stemmer Imaging – Imaging is our passion!

See our ad on page 43

Stemmer Imaging
Gutenbergstr. 9–13
82178 Puchheim
Germany
Tel.: +49 89 80902 0
Fax: +49 89 80902 116
info@stemmer-imaging.de
www.stemmer-imaging.com

M-3

Office(s)
Stemmer Imaging Ltd
United Kingdom
Tel.: +44 1252 780000
Fax: +44 1252 780001
info@stemmer-imaging.co.uk

Stemmer Imaging S.A.S.
France
Tel.: +33 1 45069560
Fax: +33 1 40991188
info@stemmer-imaging.fr

Stemmer Imaging AG
Switzerland
Tel.: +41 55 4159090
Fax: +41 55 4159091
info@stemmer-imaging.ch

Foundation
1987

Staff
101-250

Products
Cameras, Consulting, Frame Grabber, Interfaces/Cables/Peripherals, Lighting Equipment, Optics, Processors, R&D, Smart Cameras/Embedded Systems, Software, Vision Sensors

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
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, EMVA, UKIVA, VDMA

Regions served
Asia, Europe, North America, national

About SVS-Vistek

SVS-Vistek is a innovative manufacturer 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 experience in the machine vision market. Since 1999 the company has been developing and manufacturing its own digital cameras. 100% of SVS-Vistek's cameras are designed and manufactured near Munich in Seefeld, Germany. SVS-Vistek offers global sales and support through a worldwide network of highly skilled partners.

SVS-Vistek GmbH
Mühlbachstr. 20
82229 Seefeld
Germany
Tel.: +49 8152 9985 0
Fax: +49 8152 9985 79
info@svs-vistek.com
www.svs-vistek.com

M-4

Management
Ulf Weißer, President
Walter Denk, President
Andreas Schaarschmidt, President

Foundation
1987

Staff
11-50

Products
Cameras, Consulting, Frame Grabber, Integration Services, Interfaces/Cables/Peripherals, Lighting Equipment, Optics, Software, Turn-key Systems, Vision Sensors

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

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

Associations
AIA, EMVA, VDMA

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

Companies represented
Euresys S.A., Microscan, Moritex Schott, PerkinElmer, PixeLink

About Teledyne Dalsa

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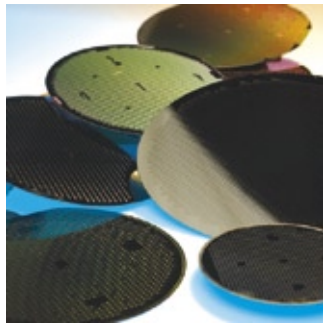
image sensors, cameras, frame grabbers and software are used in thousands of automated inspection systems around the world and across multiple industries.

Teledyne Dalsa
605 McMurray Road
N2V-2E9 Waterloo, ON, Canada
Tel: +1 519 886 6000
Fax: +1 519 886 8023
sales.americas@teledynedalsa.com
www.teledynedalsa.com/mv

See our ad on page **Inside Front Cover**   **ON-1**

Office(s)
Teledyne Dalsa
Breslauer Str. 34
82194 Gröbenzell
Germany
Tel.: +49 8142 46770
Fax: +49 8142 467746
sales.europe@teledynedalsa.com

Management
Brian Doody, CEO

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, 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

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

Associations
AIA, EMVA, JIIA

Regions served
Asia, China, Europe, Latin America, North America, national

About Ximea

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, intelligent transportation systems, and defense applications.

Huge Performance

Ximea's Currera-R and -G smart cameras combine the latest embedded processors with multiple x86 CPU and GPU cores and convenience of Windows or Linux based OS, a variety of sensors, and an IP67 housing.

Great Compatibility

Ximea cameras have plug and play APIs for more than 25 of the most common image processing software libraries.

Best-in-Industry Support

Have a tough problem to solve? Give Ximea a call or access our direct help and support interface at Ximea support site.

Ximea GmbH
Hafenplatz 4
48155 Münster
Germany
Tel: +49 251 590 686 0
Fax: +49 251 590 686 99
info@ximea.com
www.ximea.com

See our ad on page **73, 75**

OB-1

Office(s)
Ximea Corp.
United States of America
Tel.: +1 303 748-4346
Fax: +1 303 202-6350
info@ximea.com

Ximea s.r.o.
Slovakia
Tel.: +421 2 205 104 26
Fax: +421 2 205 104 27

Management
Dr. Vasant Desai
Max Larin

Foundation
2010

Staff
11–50

Products
Cameras, Smart Cameras, Embedded Systems, X-Ray

Applications
Character Recognition, Digitalization, Metrology 2D, Metrology 3D, Part Identification, Particle Analysis, Robot Vision 2D, Robot Vision 3D, Symbol Recognition, Others

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

Associations
AIA, Embedded Vision Alliance, EMVA, VDMA

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

About Volpi AG

Volpi develops and produces fiber optic and optoelectronic systems and equipment. The two Volpi plants are situated in the center of the major European and American economic zones. In its target markets Life Science (Diagnostics, Bio-Pharma), Medical Technology, Machine Vision and Industrial Endoscopy Volpi is the strategic partner for sophisticated OEM components, high-quality standard products and private label solution.

Core Competencies: Optics, Fiber Optics, Optoelectronics, Light Emitters, High-Power LED, Thermal Management, Engineering, Contract Manufacturing

Products & Services: OEM custom illumination systems, LED illumination systems, fiber optics lighting components, LED light sources, lightlines, coaxial illumination systems, infrared illumination, lightguides, industrial endoscopes, non destructive testing (NDT), light modules, subsystems, micro endoscopes, fiber bundle endoscopes, private label products.

Volpi – Light is vision.

Volpi AG
Wiesenstr. 33
8952 Schlieren
Switzerland
Tel.: +41 4473 243 43
Fax: +41 4473 243 44
mail@volpi.ch
www.volpi.ch

ZH-1

Office(s)
Volpi USA
Tel.: +1 800 688 6574
Fax: +1 315 255 1202
volpi@volpiusa.com

Management
Max Kunz, CEO
Thomas Trachsler,
Director Sales & Marketing
Thomas Baumann, CFO
Dr. Scott Kittelberger, COO Volpi USA
Reinhard Jenny, CTO
Jan Hauser, Head of R&D

Foundation
1953

Staff
51-100

Products
Lighting Equipment,
Optical Instruments

Applications
Character Recognition, Inspection Piece Parts, Inspection Webbed Material, Material Testing, Metrology 2D, Part Identifikation, Particle Analysis, 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, Other

Associations
AIA, EMVA, Other

Regions served
Central Europe, Europe, North America

Producer, Solution Provider

ABW GmbH · Siemensstr. 3, 72636 Frickenhausen, Germany,
Tel.: +49 7022 949292, Fax: +49 7022 949294, info@abw-3d.de, www.abw-3d.de

TÜ-1

Producer

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.

ADLINK
TECHNOLOGY INC.

Adlink Technology Inc.
Nord Carree 3
40477 Düsseldorf
Germany
Tel.: +49 211 495 55 52
Fax: +49 211 495 55 57
emea@adlinktech.com
www.adlinktech.eu

D-2

Producer

Aerotech GmbH · Südwestpark 90, 90449 Nürnberg, Germany,
Tel.: +49 911 967 937 0, info@aerotechgmbh.de, www.aerotech.com

N-1

Machine Builder/OEM

Aicon 3D Systems GmbH · Biberweg 30C, 38114 Braunschweig, Germany,
Tel.: +49 531 58 000 58, Fax: +49 531 58 000 60, info@aicon.de, www.aicon.de

BS-1

Integrator

AIT Göhner GmbH · Sonnenbergstr. 34G, 70184 Stuttgart, Germany,
Tel.: +49 711 23853-10, Fax: +49 711 23853-32, info@AITGoehner.de, www.VisionAndID.com

S-2

Distributor

AKE-Components GmbH · Bahnhofstr. 32, 76744 Wörth, Germany, Tel.: +49 7271 9897 20,
Fax: +49 7271 9897 29, sales@AKE-Components.de, www.ake-Components.de

KA-2

Integrator

aku.automation GmbH · Robert-Bosch-Str. 80, 73431 Aalen, Germany,
Tel.: +49 7361 89088 0, Fax: , info@aku-automation.de, www.aku-automation.de

GP-1

Solution Provider

Alfavision GmbH & Co. KG · Am Sportfeld 2, 94121 Salzweg, Germany,
Tel.: +49 851 75689-0, info@alfavision.de, www.alfavision.de

PA-1

Producer

Alicona Imaging GmbH · Teslastraße 8, 8074 Grambach bei Graz, Austria,
Tel.: +43 316 4000 700, Fax: +43 316 4000 711, info@alicona.com, www.alicona.com

G-1

Distributor, Producer, Solution Provider

Allsens Messtechnik · Im Bendersgarten 9-11, 63303 Dreieich, Germany,
Tel.: +49 6074 9143025, Fax: +49 6074 9143026, support@allsens.de, www.allsens.de

F-2

Solution Provider

Alysium-Tech GmbH · Kuehnertsgasse 14, 90402 Nuremberg, Germany, Tel.: +49 911 937878 0,
Fax: +49 911 937878 93, vertrieb@alysium-tech.com, www.alysium-tech.com

N-2

Consultant

AMC provides services and support in the areas of Market Research, Business Development, Sales Optimization and Strategic Marketing.AMC is focused on machine vision and the automation markets, both in the industrial and the non-industrial fields.

AMC · PO Box 1156, 64646 Heppenheim, Germany,
Tel.: +49 1577 530 6969, info@amc-hofmann.com, www.amc-hofmann.com

DA-1

Distributor

AMS Technologies · Fraunhoferstr. 22, 82152 Martinsried/Munich, Germany,
Tel.: +49 89 89577 0, Fax: +49 89 89577 199, info@ams.de, www.ams.de

M-5

Producer

Andanta GmbH · Stifterstrasse 5R, 82140 Olching, Germany,
Tel.: +49 8142 487658, Fax: +49 8142 487659, epost@andanta.de, www.andanta.de

M-6

Producer

AOS Technologies is a world wide renowned manufacturer of high speed streaming systems for long time recording at high frame rates. High Speed Streaming is used when long time recording with high frame rates is essential for analyzing a fast mechanical movement. Our vision components and LED illumination are top brand products and the first choice for many applications.

AOS
Technologies AG

AOS Technologies AG
Taefernstrasse 20
5405 Baden-Daettwil
Switzerland
Tel.: +41 56 483 34 88
Fax: +41 56 483 34 89
info@aostechnologies.com
www.aostechnologies.com

ZH-2

Solution Provider

Asentics vision technology offers comprehensive know-how and long-year experiences for industry- and product-specific solutions for industrial image processing tasks. Competence by which our customers directly benefit, both economically and by further improving their product quality.

Asentics GmbH & Co. KG · Birlenbacher Str. 19-21, 57078 Siegen, Germany,
Tel.: +49 271 303 91 0, Fax: +49 271 303 91 19, info@asentics.de, www.asentics.de

KO-1

Solution Provider

ATMvision · Weiherstr. 5, 88682 Salem, Germany,
Tel.: +49 7554 986990, Fax: +49 7554 98699999, info@atmvision.com, www.atmvision.com

RV-1

Solution Provider

attentra GmbH · Wilhelmstraße 8, 72074 Tübingen, Germany,
Tel.: +49 7071 54955 0, info@attentra.de, www.attentra.de

TÜ-2

Producer, Solution Provider

Automation Technology GmbH · Hermann-Bössow-Str. 6-8, 23843 Bad Oldesloe, Germany,
Tel.: +49 4531 88011 0, info@automationtechnology.de, www.automationtechnology.de

HH-2

Producer

autoVimation Peter Neuhaus · Haid-und-Neu-Str. 7, 76131 Karlsruhe, Germany,
Tel.: +49 721 6276756, Fax: +49 721 6276759, sales@autovimation.com, www.autovimation.com

KA-3

Solution Provider

Ceres Vision is a solution provider for custom-made machine vision applications in measuring, assembly verification, quality testing, print verification and robotics. Track&Trace applications based on Datamatrix or Barcodes are also part of our portfolio. We are integrator for Balluff, Cognex (PSI), Halcon, Panasonic and others. We offer vision sensors, smart cameras, ID-readers and PC-based vision systems and choose the right components for your demand to make your application a real success.

ceres vision

Ceres Vision GmbH
Am Stadtholz 24
33609 Bielefeld
Germany
Tel.: +49 521 9236930
Fax: +49 521 92369390
info@ceresvision.de
www.ceresvision.de

GT-1

Solution Provider

Chromasens designs, develops and produces innovative image capturing and processing systems. The optical, electronic and mechanical elements of high-performance cameras and illumination systems are perfectly adapted to suit the specific tasks faced by each individual customer. Production, as well as research and development, takes place in Constance, Germany. Chromasens offers professional advice and support throughout each phase of the project cycle.

chromasens
Imaging for Professionals

Chromasens GmbH
Max-Stromeyer-Str. 116
78467 Konstanz
Germany
Tel.: +49 7531 876 0
Fax: +49 7531 877 303
info@chromasens.de
www.chromasens.de

KN-1

Producer

Cognex Corporation designs, develops, manufactures, and markets machine vision sensors and systems. Cognex vision sensors are used in factories around the world to automate the manufacture of a wide range of items and to assure their quality. Cognex is the world's leader in the machine vision industry, having shipped more than 450,000 machine vision systems, since the company's founding in 1981. In addition to its corporate headquarters in Natick, Massachusetts, Cognex also has regional offices and distributors located throughout North America, Japan, Europe, Asia, and Latin America.

Cognex Germany, Inc. · Emmy-Noether-Str. 11, 76131 Karlsruhe, Germany, Tel.: +49 721 6639 0, Fax: +49 721 6639 599, info@cognex.de, www.cognex.com

KA-4

Distributor, Integrator, Producer, Solution Provider

Compar AG (Ltd.) is the Swiss leader in machine vision and robotics with 25 years of experience in inspection systems for quality assurance, nrobot guidance and identification in various industries allover Europe. VISIONexpert is the standard platform for PC based systems. Compar is Cognex Partner System Integrator and Distributor of Epson robots.

compar
vision systems & robotics

Compar AG
Rietbrunnen 44
8808 Pfäffikon SZ
Switzerland
Tel.: +41 55 416 10 60
Fax: +41 55 416 10 61
info@compar.ch
www.compar.ch

ZH-3

Solution Provider

Confovis GmbH · Wildenbruchstr. 15, 07745 Jena, Germany, Tel.: +49 3641 527 4608, info@confovis.com, www.confovis.com

J-2

Distributor

Cosyco GmbH · Starnberger Weg 1A, 82110 Germering, Germany, Tel.: +49 89 847087, Fax: +49 89 8416129, info@cosyco.de, www.cosyco.de

M-3

Consultant, Integrator, Producer, Solution Provider

CoSynth GmbH & Co. KG · Escherweg 2, 26121 Oldenburg, Germany, Tel.: +49 441 9722 289, Fax: +49 441 9722 278, info@cosynth.com, www.cosynth.com

HB-1

Integrator, Solution Provider

CTMV offers business solutions for quality assurance in the field of automotive as well as for process optimization of manufacturing in the fields of metal working, extrusion and foil/glass production. Applications are focused on cutting-edge, sophisticated surface inspection of visually difficult materials like glass, metals, plastic tubes and foils, precise dimensional measurements mainly for the stamping industry as well as position detection of moving and/or complex parts for handling.

CTMV GmbH & Co. KG
Schwarzwaldstr. 7A
75173 Pforzheim
Germany
Tel.: +49 7231 566 177 200
Fax: +49 7231 566 177 299
info@ctmv.de
www.ctmv.de

PF-1

Distributor, Producer

Edmund Optics is a leading producer of optics, imaging, and photonics technology. Supporting the R&D, electronics, semiconductor and biomedical markets around the globe; EO products are used in a variety of applications ranging from DNA sequencing to retinal eye scanning to high-speed factory automation. EO's state of the art manufacturing capabilities combined with its global distribution network has earned it the position of the world's largest supplier of off-the-shelf optical components.

Edmund Optics
Zur Giesserei 19-27
76227 Karlsruhe
Germany
Tel.: +49 721 6273 730
Fax: +49 721 6273 750
sales@edmundoptics.de
www.edmundoptics.de

KA-5

Producer

Datasensor GmbH · Tegernseer Str. 75, 83624 Otterfing, Germany,
Tel.: +49 8024 90277 0, Fax: +49 8024 90277 99, info@datasensor.de, www.datasensor.com

M-9

Distributor, Producer

EHD imaging GmbH · Zum Rennplatz 15, 49401 Damme, Germany,
Tel.: +49 5491 2090, info@ehd.de, www.ehd.de

OS-1

Integrator

de Man Industrie-Automation GmbH · Industriestr. 18, 33829 Borgholzhausen, Germany,
Tel.: +49 5425 9497-0, Fax: +49 5425 5774, info@deman.de, www.deman.de

H-1

Solution Provider

EHR GmbH · Wittumstr. 10, 75181 Pforzheim, Germany,
Tel.: +49 7231 9731-0, vision@ehr.de, www.EHR.de

PF-2

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-1

Producer

ElektroPhysik Dr. Steingroever GmbH & Co. KG · Pasteurstr. 15, 50735 Köln, Germany,
Tel.: +49 221 75204 0, Fax: +49 221 75204 67, info@elektrophysik.com, www.elektrophysik.com

K-1

Producer

Docter Optics GmbH · Mittelweg 29, 07806 Neustadt an der Orla, Germany,
Tel.: +49 36481 27 0, Fax: +49 36481 27 270, info@docteroptics.com, www.docteroptics.com

J-3

Producer

Eltec Elektronik AG · Galileo-Galilei-Str. 11, 55129 Mainz, Germany,
Tel.: +49 6131 918 100, Fax: +49 6131 918 195, info@eltec.com, www.eltec.com

MZ-1

Machine Builder/OEM

Dr. Heinrich Schneider Messtechnik GmbH · Rothlay Mühle, 55545 Bad Kreuznach, Germany,
Tel.: +49 671 291 02, Fax: +49 671 291 200, info@dr-schneider.de, www.dr-schneider.de

KO-2

Distributor, Producer, Solution Provider

Eltrotec Sensor GmbH · Heinkelstr. 2, 73066 Uhlingen, Germany,
Tel.: +49 7161 98872 300, Fax: +49 7161 98872 303, info@eltrotec.com, www.eltrotec.com

GP-4

Solution Provider

dr. schwab Inspection Technology GmbH · Industriestrasse 9, 86551 Aichach, Germany,
Tel.: +49 8251 9008-0, info@schwabinspection.com, www.schwabinspection.com

A-3

Solution Provider

Dutch Vision Systems · Am Lehmberg 2, 16928 Pritzwalk, Germany,
Tel.: +49 33986 614-0, Fax: +49 33986 614-29, info@dvs-vision.de, www.dvs-vision.de

B-3

Distributor

Duwe-3d AG · Peter-Dornier-Straße 9, 88131 Lindau (B), Germany,
Tel.: +49 8382 275 900, Fax: +49 8382 275 9029, info@duwe-3d.de, www.duwe-3d.de

RV-3

Association

The EMVA has more than 114 members representing 20 nations. Its aim is to promote the development and use of machine vision technology and to support the interests of its members – machine vision companies, research institutions and national machine vision associations. EMVA focuses on standardization, statistics, the annual EMVA Business Conference and other networking events, public relations and marketing.

EMVA – European Machine Vision Association
Lyoner Str. 18
60528 Frankfurt
Germany
Tel.: +49 69 6603 1466
Fax: +49 69 6603 2466
info@emva.org
www.emva.org

F-3

Producer

Entner Electronics · Sigmund-Nachbauer-Str. 10, 6830 Rankweil, Austria, Tel.: +43 5522 75717 0,
Fax: +43 5522 75717 4, thomas.entner@entner-letcronics.com, www.entner-electronics.com

SG-1

Producer, Solution Provider

Fisba Optik AG · Rorschacherstr. 268, 9016 St. Gallen, Switzerland,
Tel.: +41 71 282 3131, Fax: +41 71 282 3130, info@fisba.ch, www.fisba.com
SG-2

Research Facility

Fraunhofer IFF, Business Unit of Measurement and Testing Technologies · Postfach 1453,
39004 Magdeburg, Germany, Tel.: +49 391 4090 224, www.mpt.iff.fraunhofer.de
MD-1

Research Facility

Fraunhofer IMS · Finkenstraße 61, 47057 Duisburg, Germany,
Tel.: +49 2033 783 0, info@ims.fraunhofer.de, www.ims.fraunhofer.de
DU-1

Solution Provider

Fritz Pauker Ingenieure GmbH · Paul-Lenz-Str. 5, 86316 Friedberg, Germany,
Tel.: +49 821 26898 0, contact.us@pauker-ingenieure.de, www.pauker-ingenieure.com
A-5

Producer

FRT, Fries Research & Technology GmbH · Friedrich-Ebert-Strasse, 51429 Bergisch Gladbach,
Germany, Tel.: +49 2204 2430, Fax: +49 2204 2431, info@frt-gmbh.com, www.frt-gmbh.com
K-3

Solution Provider

Futec Europe SRL · Tecklenburger Strasse 36, 49525 Lengerich, Germany,
Tel.: +49 5481 997606, Fax: , info@go-futec.de, www.futeceurope.com
OS-2

Producer

GE Sensing & Inspection Technologies GmbH - phoenix|x-ray · Niels Bohr Str. 7, 31515
Wunstorf, Germany, Tel.: +49 5031 172 0, phoenix-info@ge.com, www.gesensinginspection.com
H-2

Integrator, Solution Provider

Gefasoft GmbH · Donaustaufer Str. 115, 93059 Regensburg, Germany,
Tel.: +49 941 799 96 0, Fax: +49 941 799 96 66, info@gefasoft.com, www.gefasoft.com
R-1

Producer

Geomagic GmbH · Leibnizstr. 51, 70193 Stuttgart, Germany,
Tel.: +49 178 7767 887, Fax: +1 919 474 0216, europe@geomagic.com, www.geomagic.com
S-4

Producer

GOM mbH · Mittelweg 7-8, 38106 Braunschweig, Germany,
Tel.: +49 531 390290, Fax: +49 531 39029 15, info@gom.com, www.gom.com
BS-2

Integrator, Solution Provider

GPP Chemnitz mbH · Annaberger Str. 73-77, 09111 Chemnitz, Germany,
Tel.: +49 371 523620, info@gppc.de, www.gppc.de
C-1

Solution Provider

Graphikon GmbH · Mandelstr. 16, 10409 Berlin, Germany,
Tel.: +49 30 4210 4777, Fax: +49 30 4210 4750, sales@graphikon.de, www.graphikon.de
B-4

Producer

Hamamatsu Photonics is a worldwide leading manufacturer of opto-electronic components and systems. Among others we offer sensors and systems for spectroscopy (including ultra fast), scientific- grade cameras, beam monitoring solutions, photon counting detectors and systems, photomultipliers, photodiodes, IR detectors.

HAMAMATSU
PHOTON IS OUR BUSINESS

Hamamatsu Photonics Deutschland GmbH
Arzbergerstr. 10
82211 Herrsching
Germany
Tel.: +49 8152 375 0
Fax: +49 8152 2658
info@hamamatsu.de
www.hamamatsu.de
M-11

Producer

HaSoTec GmbH · Burgwall 20, 18055 Rostock, Germany,
Tel.: +49 381 4909834, Fax: +49 381 4909835, info@hasotec.com, www.hasotec.com
HRO-1

Machine Builder/OEM

Heliotis AG · D4 Platz 4, 6039 Root Längenbold, Switzerland,
Tel.: +41 41 455 2220, info@heliotis.ch, www.heliotis.ch
ZH-4

Solution Provider

Helms Technologie GmbH · An der Strusbek 8a, 22926 Ahrensburg, Germany,
Tel.: +49 4102 22250, info@helms-technologie.de, www.helms-technologie.de
HH-4

Producer

Helmut Hund GmbH · Wilhelm-Will-Str. 7, 35580 Wetzlar, Germany,
Tel.: +49 6441 2004 0, info@hund.de, www.hund.de
GI-2

Producer, Research Facility

hema electronic GmbH · Roentgenstr. 31, 73431 Aalen, Germany,
Tel.: +49 7361 9495 0, Fax: +49 7361 9495 45, info@hema.de, www.hema.de
GP-6

Solution Provider

HGV Vosseler GmbH & Co. KG · An der Lehmgrube 9, 74613 Oehringen, Germany,
Tel.: +49 7941 9100 0, Fax: +49 7941 9100 50, info@hgv.de, www.hgv.de
HN-3

Producer

Hitachi Kokusai Electric Europe GmbH · Siemens Str. 9, 63263 Neu-Isenburg, Germany,
Tel.: +49 6102-8332-0, Fax: +49 6102-8332-499, info@Hitachi-keu.com, www.Hitachi-keu.com
F-4

Research Facility

Hochschule Darmstadt FB MN · Haardtring 100, 64295 Darmstadt, Germany,
Tel.: +49 6151 168651, heckenkamp@h-da.de, www.fbmn.h-da.de
DA-2

Producer

Holoeye Photonics AG · Albert-Einstein-Str. 14, 12489 Berlin, Germany,
Tel.: +49 30 6392 3660, Fax: +49 30 6392 3662, contact@holoeye.com, www.holoeye.com
B-5

Integrator

IB/E Optics Ing.-Büro Klaus Eckerl · Industriestr. 6, 94116 Hutthurm, Germany,
Tel.: +49 8505 3222, Fax: +49 8505 3400, ibe@ibe-optics.com, www.ibe-optics.com
PA-2

Producer, Solution Provider

ibea GmbH · Kleine Bahnstrasse 8, 22525 Hamburg, Germany
Tel.: +49 40 6898870, info@ibea.de, www.ibea.de
HH-5

Solution Provider

ICW [industrie-elektronik] · Engelschalkstr. 32, 86316 Friedberg, Germany
Tel.: +49 821 6099526, Fax: +49 821 6099531, anfrage@icw-news.de, www.icw-news.de
A-6

Producer

Imago Technologies GmbH · Strassheimer Str. 45, 61169 Friedberg, Germany,
Tel.: +49 6031 6842611, info.itf@imago-technologies.com, www.imago-technologies.com
F-5

Producer

i-mation GmbH · Neckartal 234, 78628 Rottweil, Germany,
Tel.: +49 741 94 22 86 00, info@i-mation.de, www.i-mation.de
KN-2

Integrator

imess GmbH · Stockumer Straße 28, 58453 Witten, Germany,
Tel.: +49 2302 96888 0, Fax: +49 2302 96888 0, info@imess.com, www.imess.com
KO-3

Producer

Since 1998 iiM develops and produces a constantly growing selection of LED lighting with highest functionality and performance. Luminous efficiency, design and industrial fitness are thereby important criteria. Ring- and arealights, darkfield lights, spots, coaxial- and domelights are available as static or flashed variants in different sizes and light colors. A large spectrum of diffusers and Fresnel lenses completes the product range. As engaged partner for our customers we develop and produce also special lighting according to their requirements.

LUMIMAX® made by iiM Germany
POWER LIGHTS FOR MACHINE VISION

iiM AG
Auf der Höhe 1
98617 Meiningen
Germany
Tel.: +49 3693 88585 0
Fax: +49 3693 88585 11
info@iimag.de
www.iimag.de

SHL-1

Producer

Impac Infrared · Kleyerstr. 90, 60236 Frankfurt/Main, Germany,
Tel.: +49 69 97373 0, Fax: +49 69 97373 167, info@impacinfrared.com, www.impacinfrared.com

F-6

Solution Provider

Impuls GmbH · Bahnhofstrasse 40, 86807 Buchloe, Germany, Tel.: +49 8241 6059290,
Fax: +49 8241 6059291, sales@impuls-imaging.com, www.impuls-imaging.com

A-7

Distributor

Infinity Photo-Optical GmbH · Hans-Böckler-Str. 10a, 37079 Göttingen, Germany
Tel.: +49 551 49957 0, Fax: +49 551 49957 10, info@infinity-de.com, www.infinity-de.com

GÖ-2

Producer, Solution Provider

in-situ GmbH · Mühlweg 2a, 82054 Sauerlach, Germany,
Tel.: +49 8104 6482 30, Fax: +49 8104 6482 43, vision@in-situ.de, www.in-situ.de

M-12

Integrator, Solution Provider

IOSS GmbH · Fritz-Reichle-Ring 18, 78315 Radolfzell, Germany,
Tel.: +49 7732 982796 0, info@ioss.de, www.ioss.de

KN-3

Producer

Ircam GmbH · Nürnberger Str. 71, 91052 Erlangen, Germany,
Tel.: +49 9131 970098 0, Fax: +49 9131 970098 99, info@ircam.de, www.ircam.de

N-5

Distributor, Producer, Solution Provider

IS - Imaging Solutions GmbH · Arbachtalstrasse 6, 72800 Eningen, Germany, Tel.: +49 7121 680853-1, Fax: +49 7121 680853-9, info@imaging-solutions.de, www.imaging-solutions.de

TÜ-3

Solution Provider

The Isra group develops, produces and markets intelligent systems for industrial image processing using application-specific modular standard software solutions for surface inspection, robot guidance and quality control. ISRA has focused on the automotive, general industries and food & packaging markets and offers surface inspection solutions for the glass, display glass, solar industry, plastics, films, nonwovens, print, printed electronics, paper, specialty paper and metal markets.

Isra Vision AG · Industriestr. 14, 64297 Darmstadt, Germany,
Tel.: +49 6151 948 0, Fax: +49 6151 948 140, info@isravision.com, www.isravision.com

DA-3

Integrator

isys vision GmbH & Co. KG · Gundelfinger Straße 2, 79108 Freiburg, Germany,
Tel.: +49 761 79095 0, Fax: +49 761 79095 10, info@isys-vision.de, www.isys-vision.de

FR-1

Consultant

Jansen C.E.O. facilitates mergers and acquisitions mainly in the fields of machine vision and automation technologies, coaches on company growth strategies, provides market data research and advises on internal structure and process optimization projects. Gabriele Jansen herself is active as business angel and serves as strategic advisor for a number of high-tech companies. With 20+ years of experience in the vision industry, most of those as an entrepreneur, she provides a very unique mix of industry insight and business acumen.All services, consulting and coaching rendered by Jansen C.E.O. are tailored to the individual requirements of the company or the entrepreneur.

JANSEN C.E.O.
Consulting · Execution · Optimization

Jansen C.E.O.
P.O. Box 1148
64629 Heppenheim
Germany
Tel.: +49 178 1755972
jansen@jansen-ceo.com
www.jansen-ceo.com

DA-4

Machine Builder/OEM, Producer

Jenoptik Optical Systems GmbH · Goeschwitzer Strasse 25, 07745 Jena, Germany,
Tel.: +49 3641 65 3083, digitalimaging.os@jenoptik.com, www.jenoptik.com/digitalimaging

J-4

Producer

Jenoptik Polymer Systems GmbH · Am Sandberg 2, 07819 Triptis, Germany,
Tel.: +49 36482 45-0, Fax: +49 36482 45-111, sales-oes.os@jenoptik.com, www.jenoptik.com/oes

J-5

Producer

Jos. Schneider Optische Werke GmbH develops, manufactures and distributes optical and mechanical precision components, filters and assemblies for Machine Vision and other image processing applications. These premium optics solutions help system integrators and machine builders improve their

image processing systems. Product portfolio: C-Mount lenses, Macro lenses, Zoom lenses, Telecentric lenses, Motorized lenses, VIS- SWIR- NIR- MIR-lenses, Industrial Filters, Illumination,Measurement equipment.

Jos. Schneider Optische Werke GmbH · Ringstrasse 132, 55543 Bad Kreuznach, Germany,
Tel.: +49 671 601 205, industrie@schneiderkreuznach.com, www.schneiderkreuznach.com

KO-4

Producer

Kamera Werk Dresden Optronics GmbH · Bismarckstr. 57, 01257 Dresden, Germany,
Tel.: +49 351 28 06 0, Fax: +49 351 28 06 392, info@kwdo.de, www.kwdo.de

DD-1

Integrator, Solution Provider

Kdorf Automation · Industrierring Ost 66, 47906 Kempen, Germany,
Tel.: +49 2152 894 8033, Fax: +49 2152 894 8034, kontakt@kdorf.de, www.kdorf.de

DU-2

Producer

Keyence Deutschland GmbH · Siemensstr. 1, 63263 Neu-Isenburg, Germany,
Tel.: +49 6102 3689 0, Fax: +49 6102 3689 100, info@keyence.de, www.keyence.de

F-7

Producer

Klastech GmbH · Konrad-Adenauer-Allee 11, 44263 Dortmund, Germany,
Tel.: +49 231 477 30 648, Fax: +49 231 477 30 642, info@klastech.com, www.klastech.com

D-6

Producer

Kontron · Oskar-von-Miller-Str. 1, 85386 Eching, Germany,
Tel.: +49 8165 77 777, Fax: +49 8165 77 279, sales@kontron.com, www.kontron.com

M-13

Producer

Kowa is a Japanese lens manufacturer with more than 50 years of experiences in designing and manufacturing high quality optics for industrial applications.Kowa is continuously adding new products to its standard product portfolio including 10 Megapixel C-mount lenses, 4/3" C-mount lenses, 3CCD Line Scan/ Area Scan lenses and a wide range of large format lenses with different mount options.With its technical support and service centre in Europe Kowa is suporting customization on standard lens products and complete customized lens development from the scratch. All development activities and production of Kowa's machine vision lenses are exclusively done in Japan.

Kowa Optimed Deutschland GmbH
Immermannstr. 43B
40210 Düsseldorf
Germany
Tel.: +49 211 179354 29
Fax: +49 211 161952
lens@kowaeurope.de
www.kowa.eu/fa/en/products.php

D-7

Media

Landesmesse Stuttgart organizes the VISION show in Stuttgart, Germany - world's leading machine vision show in the heart of Europe. VISION 2012 takes place from November 6 to 8. Companies from all over the world will present the latest machine vision technologies and applications for mechanical engineering, the automotive and electrical industries, medical, telecommunications, the food industry and many other sectors of industry. VISION is a must-attend event for all users of machine vision.

VISION

Landesmesse Stuttgart GmbH
Messepiazza 1
70629 Stuttgart
Germany
Tel.: +49 711 18560 2541
Fax: +49 711-18560-2657
florian.niethammer@messe-stuttgart.de
www.vision-fair.de

S-5

Producer

LAP GmbH Laser Applikationen · Zeppelinst. 23, 21337 Lüneburg, Germany,
Tel.: +49 4131 9511-95, Fax: +49 4131 9511-96, info@lap-laser.com, www.lap-laser.com

HH-6

Distributor, Producer

Laser Components GmbH · Werner-von-Siemens-Str. 15, 82140 Olching, Germany,
Tel.: +49 8142 2864 0, info@lasercomponents.com, www.lasercomponents.com

M-14

Distributor, Producer

As a specialist supplier to the photonics market, Laser 2000 is committed to excellence in the quality of service and products that we provide to customers throughout Europe. Laser 2000 Business Unit „Image Processing & Machine Vision": To improve productivity and quality in industrial en-

vironments we support the increasing demand for photonics products. Our engineers assist customers in selecting the appropriate combination of light source, camera and software.

Laser 2000 GmbH · Argelsrieder Feld 14, 82234 Wessling/Munich, Germany,
Tel.: +49 8153 405 0, Fax: +49 8153 405 33, info@laser2000.de, www.laser2000.de

M-15

Producer

LayTec AG · Seesener Str. 10-13, 10709 Berlin, Germany,
Tel.: +49 30 3980080 0, Fax: +49 30 3980080 82, info@laytec.de, www.laytec.de

B-6

Producer

Leica Geosystems AG Metrology Products · Moenchmattweg 5, 5035 Unterentfelden,
Switzerland, Tel.: +41 627376767, www.leica-geosystems.com/metrology

ZH-5

Producer

Leica Microsystems · Ernst-Leitz-Str. 17-37, 35578 Wetzlar, Germany, Tel.: +49 6441 29 4000,
Fax: +49 6441 29 4155, sales.germany@leica-microsystems.com, www.leica-microsystems.com

GI-3

Producer

Leistungselektronik Jena GmbH (LEJ), this is more than 25 years of continuous research, product development and production in the field of electronic power supplies for gas discharge lamps, lamp housings and complete light sources also based on high power LED's. Additionally a selection of Xenon flashers in different versions is part of the product range. The products are used in industrial applications as microscopy, machine vision, research and education, analytical products and solar simulation. For optimum profit of our customers all devices could be tailored to adapt to their systems.

Leistungselektronik Jena GmbH
Stockholmer Str. 5
07747 Jena
Germany
Tel.: +49 3641 3530 0
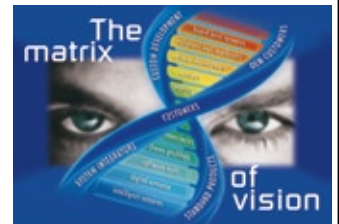Fax: +49 3641 3530 70
info@lej.de
www.lej.de

J-6

Producer

Lemo SA · 28 champs courbes, 1024 Ecublens, Switzerland,
Tel.: +41 21 695 16 00, Fax: +41 21 695 16 02, info@lemo.com, www.lemo.com

VD-1

Distributor, Producer

Lensation GmbH · Unterer Dammweg 12, 76149 Karlsruhe, Germany,
Tel.: +49 721 6054 3390, Fax: +49 721 6054 3393, info@lensation.de, www.lensation.de

KA-7

Producer

For 30 years Leutron Vision has designed and manufactured a broad range of versatile imaging products that will serve most imaging needs. Today Leutron Vision has developed a broad selection of industrial quality CCD and CMOS cameras that feature Gigabit Ethernet (GigE Vision), USB2.0, Smart and Camera Link interfaces. Leutron image acquisition products support digital line scan and area scan cameras, as well as analog cameras. Leutron products are compatible with most industrial machine vision software libraries. We do custom designs and private labeling.

Leutron Vison AG · Industriestrasse 57, 8152 Glattbrugg, Switzerland,
Tel.: +41 44 809 88 22, Fax: +41 44 809 88 29, intsales@leutron.com, www.leutron.com

ZH-6

Producer

Leuze electronic · In der Braike 1, 73277 Owen/Teck, Germany,
Tel.: +49 7021 573 0, Fax: +49 7021 573 199, info@leuze.de, www.leuze.de

GP-7

Producer

For 25 years Matrix Vision develops in conjunction with its system partners components and solutions for various industrial sectors. Effective solutions are in demand, not only in quality control of high-speed manufacturing processes with a high information density such as in the automobile industry or in mechanical engineering. The fields of surveillance, robotics, electronics, chemicals, pharmaceuticals, foodstuffs, printing, photography, microscopy and medicine also place high demands on the hard- and software of image processing systems. Matrix Vision bears all this in mind with an extensive range of products. Beside our standard products we offer custom-specific OEM solutions, which provide maximum utility for the user as a result of continuous development.

Matrix Vision GmbH
Talstr. 16
71570 Oppenweiler
Germany
Tel.: +49 7191 9432 0
Fax: +49 7191 9432 288
info@matrixvision.com
www.matrixvision.de

S-1

Producer

Math & Tech Engineering GmbH · Robert-Bosch-Str. 6/1, 72654 Neckartenzlingen, Germany
Tel.: +49 7127 958350, sales@mathtech.de, www.mathtech.eu

TÜ-4

Producer

MaxxVision is one of the leading value added distributors in the field of industrial machine vision in Germany. With a wide array of products in cameras, 360° view optics, telecentric lenses, illuminations, FPGA processing systems and customized solutions we serve all needs and requirements in machine vision. Our ISO certified company delivers the components for all kind of machine vision solutions. The products are applied in sophisticated applications like automatic identification, industrial production, quality control, logistics, electronic control, science, video surveillance etc.

MaxxVision GmbH · Sigmaringer Str.121, 70567 Stuttgart, Germany
Tel.: +49 711 9979 963, info@maxxvision.com, www.maxxvision.com

S-6

Producer

Mikromak Service · Bernhard-Lichtenberg-Str. 10, 10407 Berlin, Germany
Tel.: +49 30 42022 402, Fax: +49 30 42022 401, info@mikromak.com, www.mikromak.com

B-7

Producer

Solution Provider for motion analysis in digital image sequences, 2D and 3D.

Mikrotron GmbH · Landshuter Str. 20-22, 85716 Unterschleißheim, Germany
Tel.: +49 89 726342 00, Fax: +49 89 726342 99, info@mikrotron.de, www.mikrotron.de

M-16

Producer

m-u-t AG · Am Marienhof 2, 22880 Wedel, Germany
Tel.: +49 (0) 4103-9308-0, Fax: +49(0) 4103-9308-99, info@mut-group.com, www.mut-group.com

HH-7

Producer

MG Optical Solutions GmbH focuses on leading technologies in optics, spectroscopy, lasers and light measurement. We offer luminance cameras and standards, conometers, color measurement systems as well as hyper spectral imaging cameras for display and light source characterization.

MGOS has strong market exposure in Austria, Germany and Switzerland and communicates in German, English and French.

MG Optical Solutions GmbH · Hauptstr. 35c, 86922 Eresing, Germany, Tel.: +49 8193 212610
Fax: +49 8193 996232, contact@mgopticalsolutions.com, www.mgopticalsolutions.com

A-8

Distributor

Micro Epsilon is a worldwide known specialist for measurement of dimension and non-contact temperature. We have the broadest spectra for high quality and precise metrology, to provide you the best solution. The assortment covers inductive sensors, laser sensors, laser scanners, Thru-Beam systems, color recognition, capacititve and confocal-chromatic sensors, eddy current sensors, image processing, draw wire sensors, non contact temperature sensors, test benches and OEM-sensors.

MICRO-EPSILON

Micro-Epsilon Messtechnik GmbH
Königbacher Str. 15
94496 Ortenburg
Germany
Tel.: +49 8542 168 0
Fax: +49 8542 168 90
info@micro-epsilon.de
http://www.micro-epsilon.com

PA-3

Producer

Mitutoyo Messgeräte GmbH · Borsigstr. 8-10, 41469 Neuss, Germany,
Tel.: +49 2137 102 0, Fax: +49 2137 102 301, info@mitutoyo.de, www.mitutoyo.de

D-8

Producer

Moeller-Wedel Optical GmbH · Rosengarten 10, 22880 Wedel, Germany,
Tel.: +49 4103 93776 10, info@moeller-wedel-optical.com, www.moeller-wedel-optical.com

HH-8

Producer

MVTec Software GmbH is a leading international manufacturer of software for machine vision used in all demanding areas of imaging: semi-conductor industry, web inspection, quality control and inspection applications in general, medicine, surveillance etc. MVTec is the developer and vendor of the general purpose machine vision software Halcon. This tool, optimized for the needs of OEMs and system integrators, enables engineers to set up their own solutions for a specific machine vision task.

MVTec Software GmbH · Neherstr 1, 81675 Munich, Germany,
Tel.: +49 8 94576950, Fax: +49 89 45769555, info@mvtec.com, www.mvtec.com

M-17

Integrator, Producer, Solution Provider

NanoFocus AG · Lindnerstr. 98, 46149 Oberhausen, Germany,
Tel.: +49 208 62000-0, Fax: +49 208 62000 99, info@nanofocus.de, www.nanofocus.com

OB-2

Producer

National Instruments is a leading machine vision and scientific imaging hardware and software tools provider. From inspecting automotive parts to researching advanced medicines, engineers and scientists use NI vision software and hardware to solve a diverse set of application challenges, faster and at a lower cost.

National Instruments Germany GmbH · Ganghoferstraße 70 b, 80339 München, Germany,
Tel.: +49 89 741 31 30, Fax: +49 89 714 60 35, info.germany@ni.com, www.ni.com/vision

M-18

Solution Provider

neogramm GmbH & Co. KG · Julius-Hatry-Str. 1, 68163 Mannheim, Germany,
Tel.: +49 621 150 205 0, Fax: , info@neogramm.de, www.neogramm.de

MA-2

Producer, Solution Provider

Since 1993 NeuroCheck GmbH has been offering turn-key solutions for all fields of automated visual inspection. All these solutions are based on the software product NeuroCheck, which is developed in-house.

NeuroCheck GmbH · Neckarstr. 76/1, 71686 Remseck, Germany,
Tel.: +49 7146 8956 0, Fax: +49 7146 8956 29, info@neurocheck.com, www.neurocheck.com

S-7

Producer

Nikon Metrology GmbH · Siemensstrasse 24, 63755 Alzenau, Germany,
Tel.: +49 6023 91733-0, sales_germany@nikonmetrology.com, www.nikonmetrology.com

F-8

Solution Provider

OBE Ohnmacht & Baumgärtner GmbH & Co. KG · Turnstr. 22, 75228 Ispringen, Germany,
Tel.: +49 7231 802 0, Fax: +49 7231 802 156, trevista@obe.de, www.trevista.net

PF-3

Integrator

Octum GmbH · Renntalstraße 16, 74360 Ilsfeld, Germany,
Tel.: +49 7062 914 94 0, Fax: , info@octum.de, www.octum.de

HN-4

Producer

opsira GmbH · Leibnizstr. 20, 88250 Weingarten, Germany,
Tel.: +49 7515 61890, Fax: +49 7515 61899, info@opsira.de, www.opsira.de

RV-4

Producer

OptoPolymer · Königsteinstr. 12, 80807 München, Germany,
Tel.: +49 89 35657183, Fax: +49 89 35657184, info@optopolymer.de, www.optopolymer.de

M-19

Machine Builder/OEM

OptoSurf GmbH · Nobelstr. 9-13, 76275 Ettlingen, Germany,
Tel.: +49 7243 766 013, Fax: +49 7243 766 034, info@optosurf.com, www.optosurf.com

KA-8

Producer

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

B-8

Producer

Optronis GmbH · Honsellstr. 8, 77694 Kehl, Germany,
Tel.: +49 7851-9126-0, Fax: +49 785-19126-10, info@optronis.com, www.optronis.com

`OG-1`

Producer

Otto Vision Technology GmbH · Im Steinfeld 3, 07751 Jena, Germany,
Tel.: +49 3641-67150, Fax: +49 3641-671515, info@otto-jena.de, www.otto-jena.de

`J-7`

Producer, Solution Provider

High quality electronic and electromechanical components, automation solutions only experience can provide and that "extra" service and support are what characterize Panasonic Electric Works Europe AG. Our emphasis on service is underlined by over 100 employees at our technology centers in Holzkirchen, Karlsruhe (founded 2008) and Gera as well as numerous sales offices around Germany.

Panasonic Electric Works Europe AG · Rudolf-Diesel-Ring 2, 83607 Holzkirchen, Germany,
Tel.: +49 8024 648-0, info-de@eu.pewg.panasonic.com, www.panasonic-electric-works.de

`M-20`

Producer

Panasonic Corporation is one of the World's largest manufacturers of consumer electronics. Panasonic System Networks as a group member of the Panasonic Co. uses this expertise in digital AV systems. It's Industrial and Medical Vision department offers a comprehensive range of micro cameras which achieve purest color reproduction, impressive accuracy and extremely high resolution and small camera head dimensions suitable for applications including medical, industrial, live science and broadcast.

Panasonic
ideas for life

Panasonic System Networks Europe
Winsbergring 15
22525 Hamburg
Germany
Tel.: +49 40 8549 2606
Fax: +49 40 8549 2107
info.medicalvision@eu.panasonic.com
www.panasonic.eu

`HH-9`

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-4`

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.

PCO AG · Donaupark 11, 93309 Kelheim, Germany,
Tel.: +49 9441 2005 0, Fax: +49 9441 2005 20, info@pco.de, www.pco.de

`R-2`

Solution Provider

Pharmacontrol Electronic GmbH · Gernsheimer Str. 2, 64673 Zwingenberg, Germany,
Tel.: +49 6251 8545 0, Fax: +49 6251 8545 111, info@pharmacontrol.de, www.pharmacontrol.de

`DA-5`

Producer

Photonfocus AG is a leading developer and manufacturer of high performance CMOS image sensor and camera technologies for the machine vision industry. Based on leading-edge, proprietary sensor designs, our products feature extremely high frame rates, high dynamic and extensive programmability for use in many industrial vision applications. Additional Photonfocus offers customized sensor and camera solutions and provides design-in support in vision system design.

Photonfocus AG · Bahnhofplatz 10, 8853 Lachen, Switzerland,
Tel.: +41 55 4510000, Fax: +41 55 4510001, sales@photonfocus.com, www.photonfocus.com

`ZH-7`

Producer, Solution Provider

Phytec Messtechnik GmbH · Robert-Koch-Str. 39, 55129 Mainz, Germany,
Tel.: +49 6131 9221 0, Fax: +49 6131 9221 33, info@phytec.de, www.phytec.de

`MZ-2`

Integrator, Solution Provider

pi4_robotics GmbH · Gustav-Meyer-Allee 25, 13355 Berlin, Germany,
Tel.: +49 30 7009 694 0, Fax: +49 30 7009 694 69, sales@pi4.de, www.pi4.de

`B-9`

Consultant, Distributor, Producer, Solution Provider

plasmo Industrietechnik GmbH · Dresdner Str. 81-85, 1200 Vienna, Austria,
Tel.: +43 1 236 2607 0, Fax: +43 1 236 2607 99, sales@plasmo.eu, www.plasmo.eu

`V-2`

Producer

POG Präzisionsoptik Gera · Gewerbepark Keplerstr. 35, 07549 Gera, Germany,
Tel.: +49 365 77393 0, Fax: +49 365 77393 29, info@pog.eu, www.pog.eu

J-8

Producer

Point Grey Research, Inc. is a worldwide leader in the development of advanced digital camera technology products for machine vision, industrial imaging, and computer vision applications. A broad range of hardware, software and mechanical engineering skills has allowed Point Grey to successfully bring innovative and ground-breaking products to market. Since its founding in January of 1997, the company's approach to product pricing, quality control, and customer service has attracted thousands of customers worldwide.

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-2

Distributor

With more than 15 years experience in the machine vision market, Polytec has grown to be one of the major suppliers for components and instruments in German-speaking Europe. Today Polytec offers the full range of machine vision hardware and provides application and feasibility studies to solve complex illumination and image acquisition problems. Beyond that Polytec produces and sells worldwide a broad range of industrial LED lighting components and stroboscopes.

Polytec GmbH
Polytec-Platz 1-7
76337 Waldbronn
Germany
Tel.: +49 7243 604 180
Fax: +49 7243 699 44
bv@polytec.de
www.polytec.de

KA-1

Producer

Pro Design Electronic GmbH · Albert-Mayer-Strasse 14-16, 83052 Bruckmühl, Germany,
Tel.: +49 171 30 34 752, Frank.Eckardt@prodesign-europe.com, www.prodesign-europe.com

M-21

Producer, Research Facility, Solution Provider

Leader in R&D in industrial automation and robotics, nanotechnology, quality control and image processing.

Profactor GmbH · Am Stadtgut A2, 4407 Steyr, Austria,
Tel.: +43 7252 885 0, Fax: +43 7252 885 101, maria.fuehrlinger@profactor.at, www.profactor.at

L-1

Producer, Solution Provider

Proxitronic Industries AG · Robert-Bosch-Str. 32b, 64625 Bensheim, Germany,
Tel.: +49 6251 1703 0, Fax: +49 6251 1703 90, imaging@proxitronic.com, www.proxitronic.com

DA-6

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 GmbH & Co. KG · Königsallee 23, 37081 Göttingen, Germany,
Tel.: +49 551 6935 0, Fax: +49 551 6935 166, sales@qioptiq.de, www.qioptiq.com

GÖ-3

Solution Provider

Quiss provides a wide selection of innovative systems for various inspection tasks in the fields of adhesive and sealant application, position detection and robot guidance as well as in the manufacture of metal packaging. Quiss systems detect and prevent manufacturing errors with utmost reliability, indicate weak points and help achieve continuous improvement in the production process. We are proud to serve our customers now for two decades in the area of industrial image processing.

Quiss GmbH · Lilienthalstr. 5, 82178 Puchheim, Germany,
Tel.: +49 89 894 590, Fax: +49 89 894 111, info@quiss.com, www.quiss.com

M-22

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.

Rauscher GmbH · Johann-G.-Gutenberg-Str. 20, 82140 Olching, Germany,
Tel.: +49 8142 448 41 0, Fax: +49 8142 448 41 90, info@rauscher.de, www.rauscher.de

M-23

Integrator, Machine Builder/OEM, Solution Provider

rbc robotics · Werner von Siemens Str. 3, 65520 Bad Camberg, Germany,
Tel.: +49 6434 4733, info@rbc-robotics.de, www.rbc-robotics.de

WI-2

Producer

Rheintacho Messtechnik GmbH · Waltershofener Strasse 1, 79111 Freiburg, Germany,
Tel.: +49 761 4513 0, Fax: +49 761 445274, info@rheintacho.de, www.rheintacho.com

FR-2

Integrator

Rohwedder AG · Kesselbachstrasse 1, 88697 Bermatingen, Germany,
Tel.: +49 75 44 502 100, michael.stoecker@rohwedder.com, www.rohwedder.com

RV-5

Distributor

Rubroeder GmbH Factory Automation · Theodor-Neizert-Str. 1, 56170 Bendorf, Germany,
Tel.: +49 2622 943 730, Fax: +49 2622 943 750, info@rubroeder.de, www.rubroeder.de

KO-5

Solution Provider

SAC offers system solutions for machine vision applications in the field of 2D and 3D. Besides specific solutions, SAC develops individually customers' applications and provides as well standard solutions. Together with the customers, SAC designs concepts for the machine vision's integration into the production process. SAC's efficient system solutions range among others from 3D inspection, toothing inspection, over assembly quality assurance to surface inspection.

SAC Sirius Advanced Cybernetics GmbH · Am Sandfeld 15, 76149 Karlsruhe, Germany,
Tel.: +49 721 60 543 000, Fax: +49 721 60 543 200, sales@sac-vision.net, www.sac-vision.net

KA-9

Distributor

Schaefer Technologie GmbH · Robert-Bosch-Str 31, 63225 Langen, Germany,
Tel.: +49 6103 300 980, Fax: +49 6103 300 9829, info@schaefer-tec.com, www.schaefer-tec.com

`F-9`

Producer

Schäfter + Kirchhoff GmbH · Kieler Straße 212, 22525 Hamburg, Germany,
Tel.: +49 40 85 39 97-0, Fax: +49 40 85 39 97-79, info@SuKHamburg.de, www.SuKHamburg.de

`HH-16`

Distributor, Integrator, Solution Provider

Schoenherr Elektronik GmbH · Kurze Strasse 18, 09577 Niederwiesa, Germany,
Tel.: +49 3726 79050, info@schoenherr-elektronik.com, www.schoenherr-elektronik.com

`C-2`

Producer

Schott AG Lighting and Imaging · Otto-Schott-Strasse 2, 55127 Mainz, Germany,
Tel.: +49 6131 66 7752, lightingimaging@schott.com, www.schott.com/lightingimaging

`MZ-3`

Machine Builder/OEM, Solution Provider

Seidenader Vision GmbH has been developing and selling customized vision solutions, inspection systems and vision processors for all fields of industrial in-process quality inspection for more than 20 years. The code reading and code verification solutions of Seidenader Vision provide a reliable basis for traceability of pharmaceutical products.

Seidenader Vision GmbH · Lilienthalstr. 8, 85570 Markt Schwaben, Germany,
Tel.: +49 8121 802 0, Fax: +49 8121 802 100, info@seidenader.de, www.seidenader.de

`M-24`

Producer

SensoPart Industriesensorik GmbH · Nägelseestr. 16, 79288 Gottenheim, Germany,
Tel.: +49 766594769-0, info@sensopart.de, www.sensopart.de

`FR-3`

Producer

Sensor to Image GmbH · Lechtorstr. 20, 86956 Schongau, Germany,
Tel.: +49 8861 2369 0, email@sensor-to-image.de, www.sensor-to-image.de

`A`

Integrator, Solution Provider

Seritec GmbH · Gottlieb-Keim-Str. 60, 95448 Bayreuth, Germany,
Tel.: +49 921 990093 30, info@seritec.de, www.seritec.de

`N-6`

Machine Builder/OEM

sglux GmbH · Ostendstr. 25, 12459 Berlin, Germany,
Tel.: +49 30 53015214, Fax: +49 30 53015214, welcome@sglux.de, www.sglux.com

`B-10`

Producer

Shape Drive GmbH · Bindingstr. 11, 82131 Stockdorf, Germany,
Tel.: +49 89 45461246, info@shape-drive.com, www.shape-drive.com

`M-25`

Producer

Sharp Microelectronics Europe · Sonninstr. 3, 20097 Hamburg, Germany,
Tel.: +49 40 2376 0, Fax: +49 40 2376 2510, info.sme@sharp.eu, www.sharpsme.com

`HH-11`

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, Fax: +49 7681 202-3863, bildverarbeitung@sick.de, www.sick.com

`FR-4`

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.

Siemens AG · Gleiwitzer Str. 555, 90475 Nürnberg, Germany,
Tel.: +49 911 895 0, Fax: +49 911 895 2132, info.rfid@siemens.com, www.siemens.de/ident

`N-7`

Solution Provider

Signum Computer GmbH · Rüdesheimer Str. 21, 80686 München, Germany,
Tel.: +49 89 5470550, Fax: +49 89 574583, sales@signum-vision.de, www.signum-vision.de

`M-26`

Producer

Sill Optics GmbH & Co. KG · Johann-Höllfritsch-Str. 13, 90530 Wendelstein, Germany,
Tel.: +49 9129 9023 0, Fax: +49 9129 9023 23, info@silloptics.de, www.silloptics.de

`N-8`

Solution Provider

Simon IBV GmbH · Bayreuther Straße 5b, 95494 Gesees, Germany,
Tel.: +49 9201 91 742-0, Fax: +49 9201 91 742-80, info@simon-ibv.de, www.simavis.de

`N-9`

Producer, Solution Provider

slomotec, Dr. Frank Gabler · Grimmelshausenstr. 14, 63628 Bad Soden-Salmünster, Germany,
Tel.: +49 6056 9836 674, Fax: +49 6056 2097 529, info@slomotec.de, www.slomotec.de

`F-16`

Producer, Solution Provider

Smartray GmbH · BGM-Finsterwalder-Ring 12, 82515 Wolfratshausen, Germany,
Tel.: +49 8171 9683 400, Fax: +49 8171 9683 401, info@smartray.de, www.smartray.de

`M-27`

Integrator, Solution Provider

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

`S-9`

Producer

Solving3D GmbH · Osteriede 5, 30827 Garbsen, Germany,
Tel.: +49 5131 907 97 20, Fax: +49 5131 907 97 29, info@solving3d.de, www.solving3d.de

`H-3`

Producer

Steinbichler Optotechnik GmbH · Georg-Wiesböck-Ring 12, 83115 Neubeuern, Germany,
Tel.: +49 8035 8704 0, Fax: +49 8035 1010, sales@steinbichler.de, www.steinbichler.de

`M-28`

Machine Builder/OEM

Stiefelmayer-Reicherter GmbH & Co. KG · Boschstr. 10, 73734 Esslingen, Germany,
Tel.: +49 711 490 4690 0, reicherter@stiefelmayer.de, www.stiefelmayer.de

`GP-8`

Integrator

Stöhrmann Systemtechnik · Im Erlenwäldele 21, 77955 Ettenheim, Germany,
Tel.: +49 7822 895203, Fax: +49 7822 895205, info@stoehrmann.de, www.stoehrmann.de

`OG-2`

Producer

Stratec Control Systems · Ankerstraße 73, 75203 Königsbach-Stein, Germany,
Tel.: +49 7232 4006 0, Fax: +49 0 7232 4006 25, info@bbull.com, www.bbull.com

`PF-4`

Producer

STZ Qualitaetssicherung & Bildverarbeitung · Werner-von-Siemens-Str. 12, 98693 Ilmenau, Germany, Tel.: +49 3677 208066, Fax: +49 3677 208067, stz@stz-ilmenau.de, www.stz-ilmenau.de

`SHL-2`

Producer

SynView GmbH · Hessenring 83, 61348 Bad Homburg, Germany,
Tel.: +49 6172 38800 0, Fax: +49 6172 38800 10, info@synview.com, www.synview.com

`F-11`

Producer

Tamron Europe GmbH · Robert Bosch Str. 9, 50769 Köln, Germany,
Tel.: +49 221 970 32 50, Fax: +49 221 970 32 54, cctv@tamron.de, www.tamron.de

`K-4`

Producer

Comprising Teledyne Dalsa's Digital Imaging division offers Machine Vision components to OEMs and end users – the widest range of machine vision components in the world. From industryleading image sensors through powerful and sophisticated cameras, frame grabbers, vision processors and software to easytouse vision appliances and custom vision modules, our innovative technology helps give you competitive advantage in your imaging application, whatever it may be.

Teledyne Dalsa · Breslauer Str. 34, Gröbenzell (Munich), Germany,
Tel.: +49 8142 467 70, sales.europe@teleynedalsa.com, www.teledynedalsa.com/mv
M-29

Solution Provider

Tema · Wilhelmstr. 41-43, 58332 Schwelm, Germany,
Tel.: +49 2336 9298 50, Fax: +49 2336 9298 82, info@temavisio.com, www.temavisio.com
KO-6

Producer

The Imaging Source Europe GmbH · Sommerstr. 36, 28215 Bremen, Germany,
Tel.: +49 421 335 91 0, info@theimagingsource.com, www.theimagingsource.com
HB-2

Producer, Solution Provider

Thermosensorik GmbH · Am Weichselgarten 7, 91058 Erlangen, Germany,
Tel.: +49 9131 691 400, Fax: +49 9131 691 419, info@thermosensorik.de, www.thermosensorik.de
N-10

Producer

Tichawa Vision GmbH · Burgwallstr. 14, 86316 Friedberg, Germany,
Tel.: +49 821 4555 53 0, Fax: +49 821 4555 53 20, sales@tichawa.de, www.tichawa.de
A-9

Producer

TriDiCam GmbH · Finkenstr. 61, 47057 Duisburg, Germany,
Tel.: +49 204 3783-2937, Fax: , Jochen.Noell@tridicam.de, www.TriDiCam.de
DU-3

Producer

VDS Vosskühler GmbH · Weiße Breite 7, 49084 Osnabrück, Germany,
Tel.: +49 541 800 84 0, Fax: +49 541 800 84 10, vds@vdsvossk.de, www.vdsvossk.de
OS-3

Producer

Vialux GmbH · Am Erlenwald 10, 09128 Chemnitz, Germany,
Tel.: +49 371 33 42 47 0, Fax: +49 371 33 42 47 10, info@vialux.de, www.vialux.de
C-3

Distributor

Videor E. Hartig GmbH · Carl-Zeiss-Str. 8, 63322 Rödermark, Germany,
Tel.: +49 06074 888 - 0, Fax: +49 06074 888 - 100, info@videor.com, www.videor.com
F-12

Solution Provider

visicontrol GmbH · Ettishofer Str. 8, 88520 Weingarten, Germany,
Tel.: +49 751 560 13 0, Fax: +49 751 560 13 49, info@visicontrol.com, www.visicontrol.com
KN-5

Machine Builder/OEM, Solution Provider

Visimation GmbH · Arbuchtalstr. 20, 72800 Eningen, Germany,
Tel.: +49 7121 3040800, Fax: +49 7121 890705, post@visimation.de, www.visimation.de
TÜ-5

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 GmbH · Mittelbergstraße 16, 98527 Suhl, Germany,
Tel.: +49 3681 79 74 0, Fax: +49 3681 79 74 22, www.vision-control.com
SHL-3

Consultant, Other

Worldwide first education and further education organization for Machine Vision. The Vision Academy accompanies companies on the road to the successfull use of this technology. More than 15 years we impart knowledge and consult with - target to different user groups- practical terms of reference - well-grounded technical background - neutral, effective and interdisciplinary

Vision Academy · Konrad-Zuse-Str. 15, 99099 Erfurt, Germany,
Tel.: +49 361 42 62 188, Fax: +49 361 42 62 189, www.vision-academy.org
EF-1

Producer

Vision Components is a leading developer of machine vision technology, focusing on the manufacture and distribution of intelligent cameras for industrial use. With strategic partnerships with many key integrators and software providers, Vision Components offers a complete line of advanced industrial smart cameras for an array of applications. Product line includes single board OEM, miniature and standard Smart Cameras.

Vision Components GmbH · Ottostr. 2, 76275 Ettlingen, Germany,
Tel.: +49 7243 2167 0, sales@vision-components.com, www.vision-components.com
KA-16

Producer

Vision Engineering Ltd. · Anton-Pendele-Str. 3, 82275 Emmering, Germany,
Tel.: +49 8141 401670, Fax: +49 8141 4016755, info@visioneng.de, www.visioneng.de
M-30

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 Europe
Baldreitstrasse 5
76530 Baden-Baden
Germany
Tel.: +49 7221 97064-65
Fax: +49 7221 97064-66
heiner.ramsbott@visionresearch.com
www.visionresearch.com
KA-11

Solution Provider

Vision Tools Bildanalyse Systeme GmbH · Goethestr. 63-65, 68753 Waghäusel, Germany,
Tel.: +49 7254 9351 0, Fax: +49 7254 9351 20, info@vision-tools.com, www.vision-tools.com
MA-3

Integrator, Solution Provider

Visotect GmbH · Heubergstraße 19, 70806 Kornwestheim, Germany,
Tel.: +49 7154 800 88 61, Fax: , info@visotect.de, www.visotect.de
S-16

Distributor

Vistas GmbH · Freisinger Str. 13, 85737 Ismaning, Germany,
Tel.: +49 89 929 280 90, Fax: +49 89 929 280 99, info@vistas-gmbh.de, www.vistas-gmbh.de
M-31

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, 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 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-3

Distributor, Integrator, Producer, Solution Provider

viZaar AG · Hechinger Strasse 152, 72461 Albstadt, Germany,
Tel.: +49 7432 98375 0, Fax: +49 7432 98375 50, info@vizaar.de, www.vizaar.de

TÜ-6

Solution Provider

VMT supplies customized turnkey image processing and laser sensor systems for all industrial sectors. VMT solutions are based on self-developed product lines, which cover the entire application spectrum. As competence center for vision solutions in the Pepperl+Fuchs group, VMT offers absolute high-level technology combined with highest investment security. VMT is consultant to its customers and provides them with a solid basis for decision- making for their investments.

VMT Vision Machine Technic Bildverarbeitungssysteme GmbH · Mallaustr. 50-56, 68219 Mannheim, Germany, Tel.: +49 621 84250 0, info@vmt-gmbh.com, www.vmt-gmbh.com

MA-4

Producer

VRmagic offers a wide range of cameras for machine vision applications. The product portfolio extends from USB components such as external analog-digital converters and FPGA cameras through to programmable, intelligent cameras that run on an autonomous Linux operating system. For 3D applications VRmagic supplies multi-sensor cameras with up to four offset, pixel-synchronous image sensors and 3D area sensors which provide ready-calculated 3D data records for machine vision.

VRmagic GmbH
Augustaanlage 32
68165 Mannheim
Germany
Tel.: +49 621 400 416 20
Fax: +49 621 400 416 99
info.imaging@vrmagic.com
www.vrmagic-imaging.com

MA-5

Integrator, Solution Provider

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

GI-4

Distributor, Integrator, Solution Provider

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

M-32

Producer

wenglor sensoric gmbh · Wenglor Str. 3, 88069 Tettnang, Germany,
Tel.: +49 7542 5399 0, Fax: +49 7542 5399 988, info@wenglor.com, www.wenglor.com

KU-6

Machine Builder/OEM, Solution Provider

Wenzel Group GmbH & Co. KG · Werner-Wenzel-Str., 97859 Wiesthal, Germany,
Tel.: +49 6020 201 0, Fax: +49 6020 201 1999, info@wenzel-cmm.com, www.wenzel-cmm.com

WÜ-1

Producer

Werth Messtechnik GmbH · Siemensstrasse 19, 35394 Giessen, Germany,
Tel.: +49 641 7938 0, Fax: +49 641 7938 719, mail@werth.de, www.werth.de

GI-5

Solution Provider

Wickon Hightech GmbH · Grieboer Dorfstraße 16B, 06886 Luth. Wittenberg, Germany,
Tel.: +49 2131 20 199 0, vertrieb@wickon.com, www.wickon.com

MO-2

Solution Provider

Wolf Systeme AG · Südweg 3, 75245 Neulingen, Germany,
Tel.: +49 7237 48690 0, info@wolfsysteme.de, www.wolfsysteme.de

PF-5

Machine Builder/OEM

X-Rite Europe GmbH · Althardstr. 70, 8105 Regensdorf, Switzerland
Tel.: +1 905 331 6660, Fax: +1 905 331 6661, sales@xiris.com, www.xiris.com

ON

Machine Builder/OEM

Yxlon International GmbH · Im Bahlbrink 11-13, 30827 Garbsen, Germany,
Tel.: +49 5131 7098 0, Fax: +49 5131 7098 80, yxlon@han.yxlon.com, www.yxlon.com

H-4

Producer

Zertrox GmbH & Co. KG · Bachstr. 62-64, 52066 Aachen, Germany,
Tel.: +49 241 9977 164, Fax: +49 241 9977 165, info@zertrox.de, www.zertrox.de

AA-2

Integrator, Solution Provider

Z-Laser Optoelektronik GmbH · Merzhauser Str. 134, 79100 Freiburg, Germany,
Tel.: +49 761 2964444, Fax: +49 761 2964445, info@z-laser.de, www.z-laser.com

FR-5

Producer

ZygoLOT GmbH · Im Tiefen See 58, 64293 Darmstadt, Germany,
Tel.: +49 6151 8806 27, Fax: +49 6151 8806 27, info@zygolot.de, www.zygolot.de

DA-7

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-2**

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 · Luchthavenweg 91, 5657 EA Eindhoven, Netherlands, Tel.: +31 40 2353900, SalesEU@adimec.com, www.adimec.com **NL-1**

Solution Provider

Alliance Vision · 7 avenue du Meyrol, 26270 Montelimar, France, Tel.: +33 4 75 53 14 00, Fax: +33 4 75 53 14 04, infos@alliancevision.com, www.alliancevision.com **F-2**

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, Ana-Focus 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 954081273, Fax: +34 954081242, rafael.romay@anafocus.com, www.anafocus.com **E-1**

Producer

Andor Technology · 7 Millenium Way, BT12 7AL Belfast, United Kingdom, Tel.: +800 9027 0899, marketing@andor.com, www.andor.com **UK-3**

Distributor, Solution Provider

Applied Scintillation Technologies · 8 Roydonbury Industrial Estate, CM19 5BZ Harlow, United Kingdom, Tel.: +44 1279 641234, sales@appscintech.com, www.appscintech.com **UK-4**

Producer, Solution Provider

Aqsense develops and commercializes 3D point cloud acquisition and processing libraries that allow high speed 100% in-line applications for the Machine Vision Industry. Its customers are Machine Builders and System Integrators focused on production and quality systems for a wide range of sectors like medical, automotive, food, industrial or electronics.SAL3D, the 3D Shape Analysis Library, is a comprehensive set of tools for acquiring and processing Clouds Of Points with standard vision hardware. Its combination with standard 2D libraries can help finding solutions not doable in 2D only. Based on their experience, Aqsense provides customized developments, consultancy and 3D scanning and processing technology assessment.

Aqsense S.L.
C/Pic de peguera 15, Parc científic i tecnològic de la UdG, Edifici Casademont, Porta A, Despatx 23
17003 Girona
Spain
Tel.: +34 972 183 215
Fax: +34 972 487 487
info@aqsense.com
www.aqsense.com **E-2**

Solution Provider

Awaiba LDA is a design house of CMOS image sensors for specific applications. Awaiba, develops image sensors for industrial inspection, medical endoscopes, high speed video systems and automotive on board cameras.Furthermore Awaiba offers consulting and development services for optics and packaging.

Awaiba · Madeira Tecnopolo, 9020-105 Funchal, Madeira, Portugal, Tel.: +35 1291723124, Fax: +35 1291723174, info@awaiba.com, www.awaiba.com **PT-1**
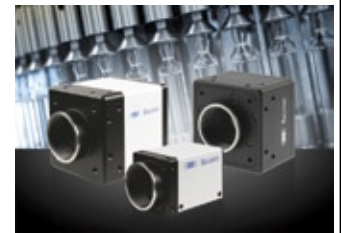
Producer

Bentham Instruments Ltd · 2 Boulton Road, RG2 0NH Reading, United Kingdom, Tel.: +44 118 975 1355, Fax: +44 118 931 2971, sales@bentham.co.uk, www.bentham.co.uk **UK-5**

Distributor

Baumer has established itself as the leading company for vision technologies. Its wide range of digital cameras, vision sensors and further image processing products with cutting edge technologies provides highest quality for industrial, scientific and medical applications. Next to vision products Baumer is known as the premier innovator for precision sensors, motion control, identification solutions, gluing systems and process instrumentation for the automation market.

Baumer Italia S.r.l.
Via Resistenza 1
20090 Assago MI
Italy
Tel.: +39 0 245706065
Fax: +39 0 245706211
sales.it@baumer.com
www.baumer.com **I-1**

Producer

CCS Lighting SolutionThe world's highest standard of LED Lighting TechnologyLet 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
Bergensesteenweg 423 B13
1600 Sint-Pieters-Leeuw
Belgium
Tel.: +32 2 333 00 80
Fax: +32 2 333 00 81
info@ccseu.com
www.ccs-grp.com **BE-1**

Producer

Image sensor design and production.

CMOSIS nv · Amerikalei 163, 2000 Antwerpen, Belgium,
Tel.: +32 32 168610, Fax: +32 32 572129, info@cmosis.com, www.cmosis.com

BE-2

Producer

Crometic enforces machine vision and industrial automation by making top-notch technology accessible and wide-spread. Crometic designed our own custom and high-performance CMOS sensors without compromising on quality, noise and saturation.In 2010/11 we fully concentrate on i) high speed and low noise cameras with up to full HD resolution; and ii) high-speed laser triangulations with on-board data processing units. Both, Camera Link Full and Gigabit Ethernet interfaces are available.

CROMETiC
INNOVATING VISION

Crometic
Via Julius-Durst Str. 98
39042 Bressanone/Brixen
Italy
Tel.: +39 0472 273 730
Fax: +39 0472 273 790
info@crometic.com
www.crometic.com

I-2

Distributor

CSI · 7 Meadowfield Park South, NE43 7QA Stocksfield, United Kingdom,
Tel.: +44 1661 842 741, GilScott@csi1.co.uk, www.cs1.co.uk

UK-6

Distributor, Producer, Solution Provider

Deben UK Limited · Brickfields Business Park, IP30 9QS Woolpit, Bury St. Edmunds, Suffolk, United Kingdom, Tel.: +44 1359 244870, info@deben.co.uk, www.deben.co.uk

UK-7

Solution Provider

Digital Surf · 6 rue Lavoisier, 5000 Besançon, France,
Tel.: +33 3 81 50 48 00, Fax: +33 3 81 50 92 24, contact@digitalsurf.fr, www.digitalsurf.com

F-3

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, Fax: +33 47658 3480, enquiries@e2v.com, www.e2v.com

F-4

Integrator

We are the well known company around in Turkey as a Hi - Tech vision system designer with robot integration

e3tam · B.Bulv 177d2, 34394 Istanbul, Turkey,
Tel.: +90 212 2752280, Fax: +90 212 2732319, inform@e3tam.com, www.e3tam.com

TR-1

Producer

Optical Innovation for LED Illumination-Effilux 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
Efficient
Led Lighting

Effilux
Bat 503 - Centre Scientifique
91400 Orsay
France
Tel.: +33 1 69 35 87 56
Fax: +33 9 72 11 21 69
sales@effilux.fr
www.effilux.fr

F-5

Producer

Euresys is a major player in the field of machine vision and video-surveillance, developing and marketing high-performance products and services for image acquisition and computer vision. Euresys offers a complete range of robust and powerful image analysis tools for industrial machine vision applications; as well as innovative and high-performance image acquisition subsystems for high-end video-surveillance and industrial machine vision applications.

EURESYS

Euresys
Avenue du Pré Aily 14
4031 Angleur
Belgium
Tel.: +32 43 677288
Fax: +32 43 677466
info@euresys.com
www.euresys.com

BE-3

Solution Provider

FDS Research develops real-time machine vision systems, proprietary software solutions and design and build turn-key vision system. These systems are in majority applied to car and automotive industry. Our solutions are applied worldwide and control several million pieces of different products daily. FDS applications are based on common FDS Imaging Software platform. These kinds of solutions offer customers easier support, quick adjustment, improvement, and application optimization.

FDS Research, d.o.o. · Suhadolčánova 28, 1231 Ljubljana, Slovenia,
Tel.: +38 6 1 589 75 81, Fax: +38 6 1 589 75 87, info@fdsresearch.si, www.fdsresearch.si

SI-1

Machine Builder/OEM

FlirAdvanced Thermal Solutions · 19, bld Bidault, 77183 Croissy-Beaubourg, France,
Tel.: +33 1 41 33 97 97, Fax: +33 1 64 11 37 55, info@flir.com, www.flir.com

F-6

Producer

Fort SA · 3 rue Lambert ZL de la Gaudre, 91410 Dourdan, France,
Tel.: +33 1 608 118 18, Fax: +33 1 645 995 73, info@fort-fr.com, www.fort-fr.com

F-7

Producer

Global Laser Ltd · Cwmtillery Industrial Estate, NP131LZ Abertillery, Gwent, United Kingdom,
Tel.: +44 1495 212213, sales@globallasertech.com, www.globallasertech.com

UK-8

Integrator

Icos Vision Systems · Industriepark Haasrode zone 1 Esperantolaan 8, 3001 Heverlee, Belgium
Tel.: +32 16 398 220, Fax: +32 16 400.067, info@icos.be, www.icos.be

BE-4

Solution Provider

Infaimon, S.L. · Vergós, 55, 08017 Barcelona, Spain
Tel.: +34 93 252 5757, Fax: +34 93 252 5758, infaimon@infaimon.com, www.infaimon.com

E-3

Producer

InRay Solutions Ltd. · 125 Tzarigradsko shosse blvd., block 2, room 510, 1113 Sofia, Bulgaria,
Tel.: +35 9 2 971 5751, Fax: +35 9 2 971 4796, inrays@inrays.com, www.inrays.com

BG-1

Machine Builder/OEM, Solution Provider

Irida Labs · Patras Science Park, 26504 Rio, Achaia, Greece,
Tel.: +30 2610911568, Fax: +30 2610911569, info@iridalabs.gr, www.iridalabs.gr

GRE-1

Integrator, Solution Provider

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

E-4

Solution Provider

JLI vision a/s · Poppelgaardvej 7-9, 2860 Soeborg, Denmark,
Tel.: +45 39 66 08 09, Fax: +45 39 56 08 12, info@jli.dk, www.jli.dk

DK-2

Distributor

Lambda Photometrics Ltd. · Lambda House, Batford Mill, AL5 5BZ Harpenden, United Kingdom,
Tel.: +44 1582 764334, adrian@lambdaphoto.co.uk, www.lambdaphoto.co.uk

UK-9

Producer

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

NL-2

Producer

LAT elektronik AB is a Swedish company who develops and produces LED illumination for machine vision applications. More than 3000 standard products and a wide range of controllers (manual, analog, RS-232, Ethernet) ensure that LATAB is able to offer suitable products for all applications. Short delivery times, high quality and the ability to match customer demands by custom lighting developments are fundamental reasons to focus on LED lighting from LATAB. Worldwide partners assure local service and assistance.

LATAB
Industrial LED Lighting

LAT elektronik AB
Krossgatan 18
16250 Vällingby
Sweden
Tel.: +46 87049225
Fax: +46 856432006
info@latab.se
www.latab.se

SE-1

Producer

Laser Quantum Ltd · Emery Court, SK4 3GL Stockport, United Kingdom,
Tel.: +44 161 975 5300, info@laserquantum.com, www.laserquantum.com

UK-16

Machine Builder/OEM, Producer

Microscan vision products address diverse applications such as high speed barcode reading, product inspection, guided robotics, placement and coordinate checking, and advanced Optical Character Recognition and Verification. In addition to the powerful, scalable image analysis tools available in AutoVision and Visionscape software, we provide our own line of advanced Nerlite lighting products, creating complete vision solutions for the most challenging applications.

MICROSCAN

Microscan Systems Inc.
Lemelerberg 17
2402 ZN Alphen aan den Rijn
Netherlands
Tel.: +31 172 423360
Fax: +31 172 423366
info@microscan.nl
http://www.microscan.com

NL-3

Producer

Molenaar Optics VOF · P.O. Box 2, 3700 AA Zeist, Netherlands, Tel.: +31 30 6951038,
Fax: +31 30 6961348, info@molenaar-optics.nl, www.molenaar-optics.com

NL-4

Producer

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

F-8

Producer

NTI · 32 Route de Seichebrieres, 45530 Vitry aux Loges, France,
Tel.: +33 238 593 051, Fax: +33 238 593 097, info@nti-measure.com, www.nti-measure.com

F-9

Producer, Solution Provider

Omron is a globally-operating company in the automation technology sector. In addition to state-of-the-art control, drive, safety and sensor technology, a main field of activity are image processing solutions for machine building and plant construction. As one of the world market leaders in industrial sensor technology, Omron has over 40 years experience in this sector.Omron's image processing product portfolio ranges from intelligent sensors to comprehensive image processing systems. The universal systems are used in all areas of industry. In addition, Omron provides sector-specific solutions for the pharmaceutical, automotive and photovoltaic industry.

OMRON

Omron Europe B.V.
Wegalaan 67-69
2132 JD Hoofddorp
Netherlands
Tel.: +31 23 568 13 00
Fax: +31 23 568 13 88
info@eu.omron.com
www.industrial.omron.eu

NL-16

Producer

For 65 years, Optics Balzers has been the preferred partner for providing innovative optical solutions. Together with its subsidiary in Jena, Optics Balzers is a global leader in the supply of optical coatings and components. The Liechtenstein-based high-tech company focuses on selected markets such as Sensors & Imaging, Biophotonics, Space & Defence, Lighting & Projection, and Industrial Applications. The products and services offered range from optical coatings and glass processing, patterning and bonding technologies to the manufacture of complete optical assemblies and are acknowledged as being unique worldwide.

Sensors & Imaging
Low Defect Solutions for Optical Packaging applications

OPTICS BALZERS

Optics Balzers AG
Neugrüt 35
9496 Balzers
Liechtenstein
Tel.: +42 3 388 9200
Fax: +4 23 388 9390
info@opticsbalzers.com
www.opticsbalzers.com

FL-1

Integrator, Solution Provider

OptoFidelity Oy · Hemiankati 8 D, 33729 Tampere, Finland, Tel.: +35 8407749259, Fax: , sales@optofidelity.com, www.optofidelity.com

FI-1

Producer

Opto Engineering designs and manufactures optical systems for imaging, metrology, sensors, projection and lasers. Nowadays Opto Engineering is well recognized as one of the best regarded suppliers of machine vision optics and its specific and continuous focusing in telecentric lens design and manufacturing has made Opto Engineering "The Telecentric Company".

Opto Engineering Srl · via Cremona, 29/2, 46100 Mantova, Italy, Tel.: +39 0376 263525, Fax: +39 0376 262432, info@opto-engineering.com, www.opto-engineering.com

I-3

Consultant, Machine Builder/OEM, Producer

OptoMotive is specialized in FPGA based high-speed intelligent cameras and architectures for demanding and real-time processing machine vision solutions. Opto-Motive assortment of modular high-speed intelligent cameras Cameleon, Camelopard and Velociraptor with its flexible architecture covers wide array of uses. Expandable FPGA architecture and real-time processing gives the camera a chance to control a process at a very high speed without any additional control units (camera centric systems).

OptoMotive, mechatronics Ltd. · V Murglah 229, 1000 Ljubljana, Slovenia, Tel.: +38 6 1 42 92 914, Fax: +38 6 1 42 92 914, info@optomotive.si, www.optomotive.si

SI-2

Distributor

Parameter AB, with over 20 years in the business, is the largest Machine Vision distributor and represents the market leaders in cameras, frame grabbers, lenses, illumination and software for Machine Vision in the Nordic and Baltic countries, Poland and Iceland.We offer consultative services and training to your Machine Vision professionals.Our customers are also market leaders in many different branches, such as paper, wood, bio medicine, electronics, food and manufacturing.

Parameter AB · Sandhamnsgatan 63C, 102 52 Stockholm, Sweden, Tel.: +46 855511000, Fax: , michael.cohn@parameter.se, www.parameter.se

SE-2

Distributor, Integrator, Solution Provider

PCS Industries Ltd · Unit 2 Brocks Business Park, SS11 2UG Wickford, Essex, United Kingdom, Tel.: +44 1268 733515, info@pcs-industries.co.uk, www.pcs-industries.co.uk

UK-11

Distributor, Producer

Photonic Products Ltd · Sparrow Lane, Hatfield Broad Oak CM22 7BA, United Kingdom, Tel.: +44 1279 717 170, sales@photonic-products.com, www.photonic-products.com

UK-12

Producer

Photron (Europe) Ltd · The Barn, Bottom Road, West Wycombe, Bucks, HP14 4BS, United Kingdom, Tel.: +44 1494 481011, ahilton@photron.com, www.photron.com

UK-13

Producer

SKS Vision Systems OY · P.O. Box 353, 40101 Jyväskylä, Finland, Tel.: +35 8 20 764 8960, Fax: +35 8 20 764 8999, sales@visionsystems.fi, www.visionsystems.fi

FI-2

Producer

Smartek d.o.o. · Ziskovec 141, 40000 Cakovec, Croatia, Tel.: +38 5 (40) 86 57 32, Fax: +38 5 40 86 57 31, info@smartek.hr, www.smartek.hr

CRO-1

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
make.believe

Sony Europe Limited
The Heights, Brooklands
KT13 0XW Weybridge, Surrey
United Kingdom
Tel.: +33 1 55 90 35 12
Fax: +33 1 55 90 35 17
zone@eu.sony.com
www.pro.sony.eu/vision

UK-14

Producer

SPC Company b.v. · Vimmerik 28, 5253 CB Nieuwkuijk, Netherlands, Tel.: +31 73 5131 188, Fax: +31 73 5131 189, sales@spccompany.nl, www.spccompany.nl

NL-10

Distributor

Special Application Products Ltd · Unit 5 Manor Farm Business Centre, Ipswich IP9 2TD, United Kingdom,Tel.: +44 1473 327 732, Fax: +44 8701 400 163, sales@sapltd.co.uk, www.sapltd.co.uk

UK-15

Machine Builder/OEM

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

F-10

Producer

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

UK-16

Producer

Tattile Srl · Via Gaetano Donizetti 1-3-5, 25030 Mairano (BS), Italy, Tel.: +39 030 97000, Fax: +39 030 97001, sales@tattile.com, www.tattile.com

I-4

Producer

Tordivel AS is a global machine vision company. Our unique and independent Scorpion Vision Software is the platform for world class vision systems and OEM solutions. Scorpion Vision Software is a powerful, flexible and extremely expeditious software tool for industrial vision. The most advanced 2D and 3D solutions are made without any programming. Scorpion Vision Software is distributed through a global network of partners. Polytec GmbH is the German partner.

Tordivel AS
Storgata 20
184 Oslo
Norway
Tel.: +47 2315 870 0
Fax: +47 2315 870 1
office@toridvel.no
www.scorpionvision.com

NO-1

Producer

TriVision · Havnegade 23, 5000 Odense, Denmark,
Tel.: +45 28353135, Fax: +45 63154709, korsgaard@trivision.dk, www.trivision.dk

DK-3

Producer

TVI Vision is the leading manufacturer of the colour line scan cameras that are based on 3CCD architecture with beamsplitting prism technology, serving high demands of the industrial machine vision applications. Main products are XIIMUS and PRIIMUS, higly sensitive, high speed, full color and digital color line scan cameras with resolutions of 512, 1024, 2048 and 4096 pixels per ech colour (RGB or RGNIR).TVI Vision has long experience in making line scan cameras. First monochrome line scan cameras were made 1982 and first 3CCD colour line scan cameras 1988.

TVI Vision
Asentajankatu 3
880 Helsinki
Finland
Tel.: +35 8 207 579 518
Fax: +35 8 207 579 519

www.tvivision.com

FI-2

Integrator, Solution Provider

Machine Vision Systems supplier to OEM's and end users. Specialist in Inspection systems for PV solar cells, closures for bottles and liquid containers, Baby diapers.

Univision s.r.l. · via Appiani 3, 20038 Seregno, Italy,
Tel.: +39 0362 600201, Fax: +39 0362 600129, info@univision.it, www.univision.it

I-5

Machine Builder/OEM

Videometer is a leading provider of spectral imaging systems and instruments for laboratory as well as in-line applications within e.g. food, pharma, cosmetic, medical, and materials industries.

Videometer A/S · Lyngso Allé 3, 2970 Horsholm, Denmark,
Tel.: +45 45761077, Fax: +45 45761041, info@videometer.com, www.videometer.com

DK-4

Distributor

Visionlink srl · Via Marco Polo 22, 20038 Seregno, Italy,
Tel.: +39 0362600202, Fax: , info@visionlink.it, www.visionlink.it

I-6

Distributor, Producer

The trilogy of light, lens and filter is crucial for a good working vision system. We offer a wide range of illumination, lenses and filter solutions. Our products are used in the industrial Machine Vision industry, Traffic Automation (i. e. license plate recognition) and Security Business. We also customize standard products to suit individual customer requirements. VLT – creating optical solutions.

Vision Light Tech · Protonenlaan 22, 5405 NE Uden, Netherlands,
Tel.: +31 413 260067, Fax: +31 413 260938, info@vlt.nl, www.visionlighttech.com

NL-11

Distributor, Integrator, Solution Provider

We are a systems integrator with over 25 years of experience in building custom machine vision systems.

Vistek Machine Vision and Automation AS · Kemal Nehrozoglu caddesi, 41480 Kocaeli, Turkey, Tel.: +90 262 6788 902, Fax: +90 262 6788 906, info@vistekas.com, www.vistekas.com

TR-2

Producer

Xenics is the leading developer of innovative infrared detection solutions for a wide range of applications. Xenics designs, manufactures and sells infrared detectors and cameras, both line-scan and 2-D, covering the infrared wavelength ranges from 0.4 to 14 micrometers. In addition, Xenics delivers custom products according to the agreed specification and planning.

Xenics · Ambachtenlaan 44, 3001 Leuven, Belgium
Tel.: 0032 16 38 99 00, sales@xenics.com, www.xenics.com

BE-4

Solution Provider

A&B Software · 5 Holly Ter, 6320 New London, CT, United States of America,
Tel.: +1 860 823 8301, sales@ab-soft.com, www.ab-soft.com
CT-1

Machine Builder/OEM

AGR International, Inc. · 615 Whitestown Road, 16001 Butler, PA, United States of America,
Tel.: +1 724 482 2163, sales@agrintl.com, www.agrintl.com
PA-1

Producer

Allison Park Group, Inc. · 4055 Alpha Drive, 15101 Allison Park, PA, United States of America,
Tel.: +1 412 487 8211, Fax: +1 412 486 3157, sales@apgvision.com, www.apgvision.com
PA-2

Machine Builder/OEM

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

Producer, Solution Provider

Asylum Research · 6310 Hollister Ave., 93117 Santa Barbara, CA, United States of America,
Tel.: +1 805 696 6466, sales@asylumresearch.com, www.AsylumResearch.com
CA-1

Distributor

Baumer has established itself as the leading company for vision technologies. Its wide range of digital cameras, vision sensors and further image processing products with cutting edge technologies provides highest quality for industrial, scientific and medical applications. Next to vision products Baumer is known as the premier innovator for precision sensors, motion control, identification solutions, gluing systems and process instrumentation for the automation market.
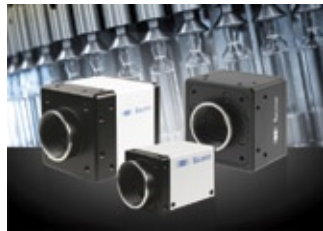
Baumer

Baumer Ltd.
122 Spring Street, Unit C-6
06489 Southington CT
United States of America
Tel.: +1 8606212121
Fax: +1 8606286280
sales.us@baumer.com
www.baumer.com
CT-2

Distributor

Bock Optronics Inc. · 14 Steinway Blvd., Suite 7, M9W 6M6 Toronto, ON, Canada,
Tel.: +1 416 674 2804, Fax: +1 416 674 1827, sales@bockoptronics.ca, www.bockoptronics.ca
ON-2

Solution Provider

Cimetrix Inc. · 6979 S. High Tech Drive, Salt Lake City, UT 84047, United States of America,
Tel.: +1 801 256 6500, Fax: +1 801 256 6510, sales@cimetrix.com, www.cimetrix.com
UT-1

Producer

Coherent Canada · 275 Kesmark, H9B3J1 Montreal, QC, Canada,
Tel.: +1 514 685 1005, Fax: , lasers@stockeryale.com, www.coherent.com
QC-2

Research Facility, Solution Provider

Coherix, Inc. · 3980 Ranchero Drive, 48108-2775 Ann Arbor, MI, United States of America,
Tel.: +1 734 922 40, Fax: +1 734 761 9193, rons@coherix.com, www.coherix.com
MI-1

Producer

Components Express, Inc is an authorized manufacturer and global supplier of CameraLink and related cable assemblies serving the Machine Vision Industry. CEI's extensive product development & engineering support is recognized throughout the industry as being the forefront in cabling technology. Specializing in both custom and standard applications. Come visit us today and see why Components Express, Inc. is the worlds' greatest machine vision cable manufacturer!

Components Express, Inc. · 10330 Argonne Woods Drive Suite 100, 60517 Woodridge, IL, United States of America, Tel.: +1 630 257 605, cei@componentsexpress.com, www.componentsexpress.com
IL-1

Producer

Computer Dynamics · 7640 Pelham Road, Greenville, SC 29615, United States of America,
Tel.: +1 864 627 8800, Fax: +1 864 675 0106, CDIsales@gefanuc.com, www.cdynamics.com
SC-1

Producer

CyberOptics Semiconductor, Inc. · 13555 SW Millikan Way, Beaverton, OR 97005, United States of America, Tel.: +1 503 495 2200, csinfo@cyberoptics.com, www.imagenation.com
OR-1

Integrator

Cyth Systems, Inc. · 9835 Carroll Centre Road, Suite 104, 92126 San Diego, CA, United States of America, Tel.: +1 888 508 7355, Fax: , info@cyth.com, www.cyth.com
CA-2

Machine Builder/OEM

Deposition Sciences, Inc. (DSI) · 3300 Coffey Lane, 95403 Santa Rosa, California, United States of America, Tel.: +1 707 573 6785, Fax: +1 707 573 6748, Solutions@depsci.com, www.depsci.com
CA-3

Distributor

Digital West Imaging · 450 Mountain View Road, El Cajon, CA 92021, United States of America,
Tel.: +1 866 593 1900, sales@DigitalWestImaging.com, www.DigitalWestimaging.com
CA-4

Producer

Directed Perception · 890C Cowan Road, Burlingame, CA 94010, United States of America,
Tel.: +1 650 692 3900, Fax: +1 650 692 3930, sales@dperception.com, www.DPerception.com
CA-5

Solution Provider

Dunkley International Inc. · 1910 Lake St., Kalamazoo, MI 49001, United States of America,
Tel.: +1 269 343 5583, ekenneway@dunkleyintl.com, www.dunkleymachinevision.com
MI-2

Producer

Epix, Inc. · 381 Lexington Drive, Buffalo Grove, IL 60089-6934, United States of America,
Tel.: +1 847 465 1818, Fax: +1 847 465 1919, epix@epixinc.com, www.epixinc.com
IL-2

Producer

FastVision · 131 D.W. Highway #529, 3060 Nashua, NH, United States of America,
Tel.: +1 603 891 4317, Fax: +1 603 891 1881, sales@fast-vision.com, www.fast-vision.com
NH-1

Producer

Fiberoptics Technology · 1 Quassett Road, Pomfret, CT 06258, United States of America,
Tel.: +1 860 928 0443, Fax: +1 860 928 7664, sgiamundo@fiberoptix.com, www.fiberoptix.com
CT-3

Producer

FJW Optical Systems, Inc. · 322 N Woodwork Ln, Palatine, IL 60067-4933, United States of America, Tel.: +1 847 358 2500, irsales@findrscope.com, www.findrscope.com
IL-3

Integrator, Solution Provider

FSI Technologies Inc. · 668 Western Ave., 60148 Lombard, IL, United States of America,
Tel.: +1 630 932 9380, Fax: +1 630 932 0016, info@fsinet.com, www.fsinet.com
IL-4

Producer

Gevicam Inc. · 673 S. Milipitas Blvd, Milpitas, CA 95035, United States of America,
Tel.: +1 408 262 5772, Fax: +1 408 262 0962, info@gevicam.com, www.gevicam.com
CA-6

Producer

Manufacturer of standard and custom camera cable assemblies include CameraLink, Mini Camera Link, FireWire, USB, GigE and other analog and digital cable assemblies. Highflex and industrial grade cable assemblies are available for robotic and other high flex applications. Additional products include bulk cable, power supplies, and fiber optic extenders.

Intercon 1 · 7746 Goedderz Rd., Ste 110, 56425 Buxter, MN, United States of America,
Tel.: +1 218-828-3157, Fax: +1 218 828 1096, intercon@nortechsys.com, www.intercon-1.com
MN-1

Producer

Lambda Research Corporation · 25 Porter Road, 01460-1434 Littleton, MA, United States of America, Tel.: +1 978 486 0766, sales@lambdares.com, www.lambdares.com
MA-1

Distributor

LDD Trading Associates, LLC · 119B Emerson Road, 3055 Milford, NH, United States of America,
Tel.: +1 603 732 57, sales@lddlight.com, www.LDDLIGHT.com
NH-2

Producer

Lincoln Laser Company · 234 East Mohave, Phoenix, AZ 85004, United States of America, Tel.: +1 602 257 0407, Fax: +1 602 257 0728, bcmcgrath@lincolnlaser.com, www.lincolnlaser.com

NY-1

Producer

Lumenera Corporation is a leading developer and manufacturer of high performance digital cameras and custom/OEM imaging solutions used worldwide in a diverse range of industrial, scientific and security applications. Lumenera solutions provide unique combinations of speed, resolution and sensitivity to satisfy the most demanding digital imaging requirements.

Lumenera Corporation · 7 Capella Court, K2E 8A7 Ottawa, ON, Canada, Tel.: +1 613 736 4077, Fax: +1 613 736 4071, lutz.schmidt@lumenera.com, www.lumenera.com

ON-3

Producer

Mad City Labs, Inc. · 2524 Todd Drive, 53713 Madison, WI, United States of America, Tel.: +1 6082980855, Fax: , sales@madcitylabs.com, www.madcitylabs.com

WI-1
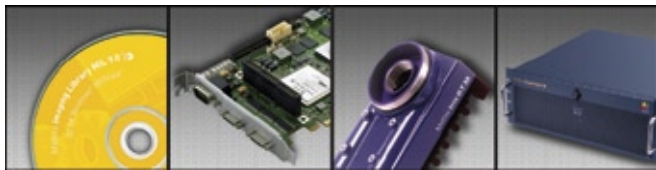
Producer

Established in 1976, Matrox Imaging is a leading developer of component-level solutions for machine vision, image analysis, medical imaging, and video surveillance. Products include frame grabbers, vision processors, imaging computers, industrial and smart cameras, and application development software.

Matrox Imaging
1055 St. Regis Blvd.
H9P 2T4 Dorval
QC, Canada
Tel.: +1 514 822 6020
Fax: +1 514 822 6273
imaging.info@matrox.com
www.matroximaging.com

QC-1

Distributor

Metaphase Technologies, Inc. · 3412 Progress Drive (unit C), Bensalem, PA 19020, United States of America, Tel.: +1 215 639 8699, info@metaphase-tech.com, www.metaphase-tech.com

PA-3

Producer, Solution Provider

Midwest Optical Systems, Inc. · 322 N. Woodwork Lane, 60067 Palatine, IL, United States of America, Tel.: +31 172 423360, Fax: +31 172 423366, info@microscan.nl, www.microscan.com

IL-5

Distributor

msiVision · 5 Herbert Drive, Suite 1N, 12309 Latham, NY, United States of America, Tel.: +31 30 6951038, Fax: +31 30 6961348, info@molenaar-optics.nl, www.molenaar-optics.com

NY-2

Producer, Solution Provider

Navitar · 200 Commerce Drive, 14623 Rochester, NY, United States of America, Tel.: +1 585 359 4000, Fax: +1 585 359 4999, info@navitar.com, www.navitar.com

NY-3

Producer

Newnex creates long distance connection solutions for machine vision and inspection applications through fiber, CHTS and Coax Cables for 1344 GigE and USB 2.0 etc. Newnex also manufactures high flex, angled, locking and custom design cables.

Newnex Technology Corp. · 1231 Alderwood Ave., Sennysale, CA 94089, United States of America, Tel.: +1 408 749 1480, information@newnex.com, www.newnex.com

CA-7

Producer

StreamPix 5 is a high speed digital video recording software for single or multiple cameras. Includes support for a wide selection of GigE Vision, USB2, Analog, Firewire and Camera link cameras and frame grabbers using original vendor API's. Supports time stamping, synchronization between multiple cameras, bayer conversion, IrigB and data acquisition. Compatible with various compression codecs. Acquire at up to 500 fps x 1,280 x 1,024 x 8 bits to disk from single or dual cameras. NorPix also provides turnkey systems including software, hardware, triggering and Irigb timing.

Norpix, Inc.
1751 Richardson St., Suite 6117
H3KIG6 Montreal, QC
Canada
Tel.: +1 514 846 0009
Fax: +1 514 846 0117
sales@norpix.com
www.norpix.com

QC-3

Other

An Innovative solutions provider, Northwire Technical Cable leads the industry in fast turnaround, with delivery of technical and retractile cable and cable assemblies from design to ship in as few as five days with no minimum order length or quantity requirements. Stock cable is shipped the same day.

Northwire offers free design and prototyping services to facilitate customers' pursuit of innovative solutions. Specialized staff members help customers navigate complex international standards, agency compliance, environmental regulations and electrical requirements.

Northwire Technical Cable · 110 Prospect Way, 54020 Osceola, WI, United States of America, Tel.: +1 715 294 2121, Fax: +1 715 294 3727, cableinfo@northwire.com, www.northwire.com

WI-2

Producer

Novacam Technologies Inc. · 277 Lakeshore Road, Suite 04, H9S 4L2 Pointe Claire, Quebec, Canada, Tel.: +1 866 694 4002, Fax: +1 514 630 6420, info@novacam.com, www.novacam.com

QC-4

Solution Provider

Optel Vision · 2680, boul. du Parc Technologique, G1P 4S6 Quebec City, QC, Canada, Tel.: +1 418 688 334, Fax: +1 418 6889397, info@optelvision.com, www.optelvision.com

QC-5

Producer

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

CA-8

Integrator

Orus Integration Inc · 1109 Hwy 13, H7W 5J8 Laval, QC, Canada, Tel.: +1 450 688-3151, Fax: +1 514 221-2026, ldicaire@orusintegration.com, orusintegration.com

QC-6

Producer

PixeLink · 3030 Conroy, K1G 6C2 Ottawa, ON, Canada, Tel.: +1 613 247 1211, sales@pixelink.com, www.pixelink.com

ON-4

Producer

Power Technology, Inc. · PO Box 191117, 72219-1117 Little Rock, Arkansas, United States of America, Tel.: +1 501 407-0712, sales@powertechnology.com, www.powertechnology.com

AR-1

Producer

PPT Vision, Inc. designs, manufactures, and markets machine vision based intelligent cameras used for automated inspection, measurement, and guidance applications in the manufacturing marketplace. Our IMPACT intelligent camera product line enables manufacturers to realize signifi-

cant economic paybacks by increasing the quality of manufactured parts and improving the productivity of manufacturing processes.PPT Vision's machine vision based smart camera products are sold through a global network of distribution and integration partners.

PPT VISION · 6301 Old Shakopee Road, 55438 Bloomington, MN, United States of America, Tel.: +1 952-996-9500, Fax: +1 952-996-9501, sales@pptvision.com, www.pptvision.com

MN-2

Producer

Pleora Technologies specializes in the transmission of real-time video over Gigabit Ethernet (GigE) networks and is the co-founder of the GigE Vision® standard. Our end-to-end networked video connectivity solutions help industrial camera manufacturers and vision system integrators avoid costly R&D expenses and get to market quicker, while ensuring the highest levels of imaging performance.

Pleora Technologies Inc.
359 Terry Fox Drive Suite 230
K2K 2E7 Kanata, ON
Canada
Tel.: +1 613 270 0625
Fax: +1 613 270 1425
info@pleora.com
www.pleora.com

ON-5

Solution Provider

Pressco Technology Inc. · 29200 Aurora Road, 44139 Cleveland, OH, United States of America, Tel.: +1 440 498 2600, Sales@pressco.com, www.pressco.com

OH-1

Producer

ProPhotonix designs and manufactures chip-on-board LED illumination products, machine-vision specific laser modules and a broad range of laser assemblies for industrial and other applications. Our company also distributes laser diodes manufactured by industry leaders including Sony, Opnext, Ondax and QSI. Additionally, ProPhotonix creates custom OEM solutions for scientific and industrial applications, including packaging, industrial inspection and alignment, high-speed scanning and sorting, patient-positioning, targeting, and 3-D imaging.

ProPhotonix
32 Hampshire Road
3079 Salem, NH
United States of America
Tel.: +1 603 893 8778
Fax:
sales@prophotonix.com
www.prophotonix.com

NH-3

Producer

Rad-icon Imaging Corporation · 888 East Arques Avenue, 94085 Sunnyvale, CA, United States of America, Tel.: +1 408 736 6000, sales@rad-icon.com, www.rad-icon.com

CA-9

Producer

SensorDesk, Inc. · 30 Merion Pl., 8648 Lawrenceville, NJ, United States of America, Tel.: +1 609 642 1377, Fax: +1 609 964 1928, voigt@SensorDesk.com, www.SensorDesk.com

NJ-1

Machine Builder/OEM

Sensors Unlimited, Inc. · 3490 Route 1 Building 12, 08540-5914 Princeton, NJ, United States of America, Tel.: +1 609 520 0610, Karen.Jeffers@goodrich.com, www.sensorsinc.com

NJ-2

Producer

Servo-Robot Inc. · 1370 Hocquart, J3V 6E1 St-Bruno, QC, Canada, Tel.: +1 450 653-7868, Fax: +1 450 653-7869, sales@servorobot.com, www.servorobot.com

QC-7

Producer

Smart Vision Lights · 1800 Holton Rd Suite D 353, 49445 Muskegon, MI, United States of America, Tel.: +1 231 722 1199, bobby@smartvisionlights.com, www.smartvisionlights.com

MI-3

FAL CON
LED LIGHTING SYSTEMS FOR MACHINE VISION
Falcon LED Lighting Ltd. · Fasanweg 7 · 74254 Offenau
Web: www.falcon-led.de · Phone: 0(049) 7136 9686-0

Distributor

Adept Electronic Solutions · Level 1, 15 Drake St, 6017 Osborne Park, WA, Australia,
Tel.: +61 892425411, Fax: , adept@adept.net.au, www.adept.net.au

AUS-1

Producer

Alditech · Institutskaya, 142290 Pushchino, , Russia,
Tel.: +7 4967 736220, Fax: , web@alditech.ru, www.alditech.ru

RUS-1

Distributor

Baumer has established itself as the leading company for vision technologies. Its wide range of digital cameras, vision sensors and further image processing products with cutting edge technologies provides highest quality for industrial, scientific and medical applications. Next to vision products Baumer is known as the premier innovator for precision sensors, motion control, identification solutions, gluing systems and process instrumentation for the automation market.
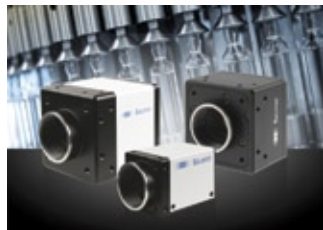
Baumer

Baumer (China) Co., Ltd.
Building 30, 2nd Floor, Section A, Minyi Road 201,
Songjiang District
201612 Shanghai
China
Tel.: +86 2167687095
Fax: +86 2167687098
sales.cn@baumer.com
www.baumer.com

CN-1

Distributor, Solution Provider

G4 Technology Co., Ltd. · 5F, No. 46, Sec. 3, Minquan E. Rd, Taipei 104-77, Taiwan,
Tel.: +886 2 2503 1803, Fax: +886 2 2503 1802, ken@g4.com.tw, www.g4.com.tw

RC-1

Producer, Solution Provider

Gidel was founded in 1993 as a high-end system development and integration company. With our project-level approach, we created several powerful and advanced tools for high-performance system development. In 1997 we began providing our in-house development systems to the industry.

Gidel provides machine vision components utilizing FPGA technology for Frame Grabbers, Image Processing, Hardware Accelerations for Algorithms and Camera/Machine Simulators.

Gidel Ltd. · 2 Ha'ilan St. P.O.Box 281, 30600 Or Akiva, Israel,
Tel.: +97 2 4 610 2500, Fax: +97 2 4 610 2501, sales_eu@gidel.com, www.gidel.com

IL-1

ASIA

RUS

CN

J

IL

RC

AUSTRALIA

AUS

Producer

Goyo Optical Inc · 3-8-31 Hamazaki, 351-0033 Asaka-Saitama, , Japan,
Tel.: +81 48 474 2235, Fax: , info@goyooptical.com, www.goyooptical.com

J-1

Association

Japan Industrial Imaging Association · 2-10-15, Nakameguro, Yamate Ave. K Bldg., 153-0061
Meguro, Tokyo, Japan, Tel.: +81 3 3716 3933, Fax: +81 3 3716 3933, info@jiia.org, www.jiia.org

J-2

Producer

Kamiera · 6A Massada St., 45294 Hod Hasharon, Israel,
Tel.: +97 2 9 7603425, Fax: +97 2 9 7421622, info@kamiera.com, www.kamiera.com

IL-2

Producer

NED (Nippon Electro-Sensory Devices Ltd) · Shinagawa-ku, Ohi 1-45-2 Gibraltar Ohi Bldg, 4f,
140-0014 Tokyo, Japan, Tel.: +81 3 5718 3181, sven@ned-sensor.com, www.ned-sensor.co.jp/en

J-3

Producer

Shenzhen Kuangshi Communication Technology · 6/F, No.1 Building, Zhongyuntai Industry
Park, Tangtou Shiyan, 51818 Shenzhen, China, Tel.: +86 0755 29781835, www.ksfiberoptic.com

CN-2

Producer

Toshiba Teli Corporation develops and manufactures CMOS and CCD cameras for machine vision, industrial automation, inspection, measurement, robotics, 3D, pick and place, AOI & medical imaging. The product assortment includes Gigabit, Firewire, PoCL, Cameralink, Linescan, analog, RS170 (EIA), CCIR, near infra-red, remote head cameras, mini-cube and HD CMOS cameras using CCD and CMOS sensors up to 12 megapixel. Toshiba Teli Corporation also manufactures OEM cameras and HD LCD Monitors for the medical industry. Please visit our website to request more information or a demonstration of our products including our 12 MP 4K x 3K resolution camera running a full 25FPS and our new Full HD CMOS 60FPS.Our products are subject to total in-house manufacturing from the procurement and supply of components to assembly, wiring and inspection. We build on established technology with state-of-the-art innovations that support constant efforts to maintain the very highest quality levels in our products.

teli

Toshiba Teli Corporation
4-7-1 Asahigaoka
1910065 Hino, Tokyo
Japan
Tel.: +81 425 89 8771
Fax: +81 425 89 8774
h-kiyama@toshiba-teli.co.jp
www.toshiba-teli.co.jp

J-4

Cameras &Image S

ABS
www.abs-jena.de

Adimec
www.adimec.com

Aicon 3D Systems
www.aicon.de

AIM Infrarot Module
www.aim-ir.de

AKE-Components
www.ake-components.de

Allied Vision Technologies
www.alliedvisiontec.com

Allison Park Group
www.apgvision.com

Alrad Imaging
www.alrad.co.uk

AMS Technologies
www.ams.de

AnaFocus
www.anafocus.com

Andanta GmbH
www.andanta.de

Andor Technology
www.andor.com

AOS Technologies
www.aostechnologies.com

Applied Scintillation Technologies
www.appscintech.com

Artray
www.artray.co.jp

Asentics
www.asentics.de

Automation Technology
www.automationtechnology.de

Awaiba
www.awaiba.com

BAP Image Systems
www.bapis.de

Basler Vision Technologies
www.baslerweb.com

Baumer
www.baumer.com

Beijing Microview
www.microview.com.cn

BFI Optilas
www.bfioptilas.com

Bock Optronics
www.bockoptronics.ca

Canesta
www.canesta.com

C-Cam Technologies
www.c-cam.be

China Daheng Group
www.daheng-image.com

Chromasens
www.chromasens.de

Cmos Vision
www.cmosvision.com

CMOSIS
www.cmosis.com

Cognex
www.cognex.com

Cohu
www.cohu-cameras.com

Compar
www.compar.ch

Computer BV
www.computerbv.de

Cosyco
www.cosyco.de

Crometic
www.crometic.com

CSEM
www.csem.ch

Cypress Semiconductor
www.cypress.com

Data Vision
www.datvision.com

Datalogic Automation
www.automation.datalogic.com

Dedo Weigert
www.dedoweigertfilm.de

Devitech
www.devitech.dk

Digital West Imaging
www.DigitalWestimaging.com

e2v
www.e2v.com

Eastman Kodak
www.kodak.com/go/imagers

ebs Automatisierte Thermographie und Systemtechnik
www.irpod.net

Edmund Optics
www.edmundoptics.de

EHD imaging GmbH
www.ehd.de

Eltec Elektronik
www.eltec.com

Eltrotec Sensor
www.eltrotec.com

Entner Electronics
www.entner-electronics.com

Epix
www.epixinc.com

Erhard + Leimer
www.erhardt-leimer.com

Eureca Messtechnik
www.eureca.de

Euresys
www.euresys.com

eVision Systems
www.aivion.de

Fabrimex Systems
www.fabrimex-systems.ch

Fairchild Imaging
www.fairchildimaging.com

Fastec Imaging
www.fastecimaging.com

FiberVision
www.fibervision.de

FJW Optical Systems
www.findrscope.com

Flir Systems GmbH
www.flir.com

Fluke
www.fluke.de

Fort
www.fort-fr.com

ensors

Framos
www.framos.eu

Fraunhofer IMS
www.ims.fraunhofer.de

FSI Technologies
www.fsinet.com

Fuzhou Feihua Optoelectronic Technology
www.fzfh.com

G4 Technology
www.g4.com.tw

Gevicam
www.gevicam.com

Goodrich/SUI
www.sensorsinc.com

Goratec
www.goratec.de

gsvitec
www.gsvitec.com

Hamamatsu Photonics
www.hamamatsu.com

Helion
www.helionvision.com

Heliotis
www.heliotis.ch

HGV Vosseler
www.hgv.de

High Speed Vision
www.hsvision.de

Hitachi Kokusai Electric Europe GmbH
www.Hitachi-keu.com

Horn Imaging
www.horn-imaging.de

Ico Data
www.icodata.de

IDS
www.ids-imaging.com

Ikegami
www.ikegami.de

Illunis
www.illunis.com

Image House
www.imagehouse.dk

Image S
www.imagessrl.com

Imaging Solutions Group
www.isgchips.com

Imi Technology
www.imi-tech.com

Impac Infrared
www.impacinfrared.com

Imperx
www.imperx.com

IMS Chips
www.ims-chips.de

Industrial Vision Systems
www.industrialvision.co.uk

Infaimon
www.infaimon.com

InfraTec
www.infratec.de

Insensiv
www.insensiv.de

IOS
www.ios-web.de

Ircam
www.ircam.de

IS Imaging Solutions
www.imaging-solutions.de

JAI
www.jai.com

Japan F.A. Systems Corporation
www.jfas.co.jp

JenCam
www.jencam.de

Jenoptik Laser, Optik, Systeme
www.jenoptik-los.de

Kamera Werke Dresden
www.kwdo.de

Kamiera
www.kamiera.com

Kappa opto-electronics
www.kappa.de

Karlheinz Hinze Optoengineering
www.hinze-opto.de

KeeKoon Electronics
www.keekoon.com

Klughammer
www.klughammer.de

Kvant
www.kvant.sk

Lambda Photometrics
www.lambdaphoto.co.uk

Lambert Instruments
www.lambert-instruments.com

Leitner Industrial Endoscopy
www.leitner-efer.de

Leutron Vision
www.leutron.com

Leuze Electronic
www.leuze.com

LMI Technologies
www.lmitechnologies.com

Lord Ingenierie
www.lord-ing.com

LOT Oriel
www.lot-oriel.com

Lumenera
www.lumenera.com

Luster LightVision Tech
www.lusterinc.com

MAK Bildtechnik
www.mak-bildtechnik.de

Matrix Vision
www.matrix-vision.de

MaxxVision
www.maxxvision.com

Menzel Vision and Robotics
www.menzelab.com

Mesa Imaging
www.mesa-imaging.ch

MG Optical Solutions
www.mgopticalsolutions.com

Microsystems
www.microsystems.it

Mikromak Service
www.mikromak.com

Mikrotron
www.mikrotron.de

msiVision
www.msivision.com

NAC
www.nacinc.de

Narragansett Imaging
www.nimaging.com

National Instruments
www.ni.com

NED
www.ned-sensor.co.jp

NET
www.net-gmbh.com

NeuPro Solutions
www.neupro-solutions.com

New Imaging Technologies
www.new-imaging-technologies.com

NTI
www.nti-measure.com

OBE Ohnmacht & Baumgärtner
www.trevista.net

Odem Technologies
www.odem.co.il

Olympus
www.olympus-europa.com

Omron
www.industrial.omron.de

Opto Fidelity
www.optofidelity.com

Opto Sonderbedarf
www.opto.de

Optrima
www.optrima.com

Optris
www.optris.de

Optronis
www.optronis.com

Orbis
www.orbis.eu

Panasonic Electric Works
www.panasonic-electric-works.de

Parameter
www.parameter.se

PCO
www.pco.de

Pentacon
www.pentacon.de

PerkinElmer Optoelectronics
www.perkinelmer.com

Philips
www.apptech.philips.com/vision

Photonfocus
www.photonfocus.com

Photron
www.photron.com

Phytec Messtechnik
www.phytec.de

pi4_robotics
www.pi4.de

Pieper
www.pieper-video.de

PixeLink
www.pixelink.com

PMDTec
www.pmdtec.com

Point Grey Research
www.ptgrey.com

Polytec
www.polytec.com

Polytec
www.polytec.de

Princeton Instruments
www.princetoninstruments.com

Prosilica
www.prosilica.com

Proxitronic
www.proxitronic.com

Qualimatest
www.qmt.ch

Quest Innovations
www.quest-innovations.com

Rad-icon Imaging
www.rad-icon.com

Rauscher
www.rauscher.de

Redlake
www.redlake.com

RH Engineering
www.rhengineering.de

Roper Scientific
www.roperscientific.de

Rubroeder
www.rubroeder.de

Salvador Imaging
www.salvadorimaging.com

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

Schäfter + Kirchhoff
www.sukhamburg.de

Schmachtl
www.schmachtl.at

SDT - Dr. Seitner
www.sdt-seitner.com

Second2None
www.visiondragon.com

Secube
www.secube.co.kr

Sedeco Vision Components
www.sedeco.nl

Seiwa Optical
www.seiwaopt.co.jp

Sensor to Image
www.sensor-to-image.de

Sensors Unlimited, Inc.
www.sensorsinc.com

Sentech
www.sentech.co.jp

sglux
www.sglux.com

Sharp Microelectronics
www.sharpsme.com

SKS Vision Systems
www.visionsystems.fi

Slomotec
www.slomotec.de

Consulting, Marketing, Education, & Other Services

A.I.D.A. IMVG
www.associazionevisione-imvg.it

AIA Automated Imaging Association
www.machinevisiononline.org

AIDO
www.aido.es

Alfavision
www.alfavision.de

AMC
www.amc-hofmann.com

Arvoo Imaging Products
www.arvoo.com

AS Thermographie
www.as-thermografie.de

Asentics
www.asentics.de

Austrian Research Centers
www.smart-systems.at

Awaiba
www.awaiba.com

Carl Zeiss 3D Metrology Services
www.zeiss3d.de

CMES - Chinese Mechanical Engineering Society
www.cmes.org

Cmos Vision
www.cmosvision.com

CMOSIS
www.cmosis.com

Cognex
www.cognex.com

Collischon Optik-Design
www.mikro-optik.de

CSEM
www.csem.ch

CTMV
www.ctmv.de

Datapixel
www.datapixel.com

de Man Industrie-Automation
www.deman.de

Delta Digital Video
www.delta.dk

Digital West Imaging
www.DigitalWestimaging.com

Duwe 3D
www.duwe-3d.de

EMVA European Machine Vision Association
www.emva.org

Entner Electronics
www.entner-electronics.com

Erhard + Leimer
www.erhardt-leimer.com

Farbmessung Schröder
www.farbmessung.com

FiberVision
www.fibervision.de

Framos
www.framos.eu

Fraunhofer Allianz Vision
www.vision.fraunhofer.de

Fritz Pauker Ingenieure
www.pauker-ingenieure.de

G4 Technology
www.g4.com.tw

GBS
www.gbs-ilmenau.de

GFaI
www.gfai.de

GIT Verlag
www.gitverlag.com

Graphikon
www.graphikon.de

HGV Vosseler
www.hgv.de

IAI Imaging Association of India
www.iaionline.org

IDS
www.ids-imaging.com

Imaging Lab
www.imaginglab.it

Impuls
www.impuls-imaging.com

INB Vision
www.inb-vision.com

Infaimon
www.infaimon.com

InRay Solutions
www.inrays.com

Irida Labs
www.iridalabs.gr

IS Imaging Solutions
www.imaging-solutions.de

IVAN
www.feda.nl

Jansen C.E.O.
www.jansen-ceo.com

JIIA Japan Industrial Imaging Association
www.jiia.org

Joanneum Research
www.joanneum.at

Kappa opto-electronics
www.kappa.de

Landesmesse Stuttgart
www.vision-fair.de

Lincoln Laser Company
www.lincolnlaser.com

Messe München
www.messe-muenchen.de

msiVision
www.msivision.com

Neurocheck
www.neurocheck.com

NTI
www.nti-measure.com

OBE Ohnmacht & Baumgärtner
www.trevista.net

Omron
www.industrial.omron.de

Optical Research Associates
www.opticalres.com

Opto Fidelity
www.optofidelity.com

Opto Sonderbedarf
www.opto.de

P.E. Schall
www.schall-messen.de

Phytec Messtechnik
www.phytec.de

pi4_robotics
www.pi4.de

Polytec
www.polytec.com

Rubroeder
www.rubroeder.de

Sensor to Image
www.sensor-to-image.de

SmartSurv
www.smartsurv.de

Solving3D
www.solving3d.de

SPG Data 3D
www.spgdata3d.com

Stemmer Imaging
www.stemmer-imaging.com

STZ Qualitätssicherung und Bildverarbeitung
www.stz-ilmenau.de

Supercomputing Systems
www.scs-vision.ch

SVS Vistek
www.svs-vistek.com

Symop
www.symop.com

UKIVA
www.ukiva.org

University of Applied Scienes
www.fbmn.h-da.de

Univision
www.univision.it

Van de Loosdrecht Machine Vision
www.vdlmv.nl

VDMA Industrielle Bildverarbeitung
www.vdma.org/vision

Vega Technology Group
www.vegatcgroup.com

Vision & Control
www.vision-control.com

Vision Academy
www.vision-academy.org

Vision Club of Finland
www.automaatioseura.fi

Vision Machines
www.vision-machines.com

Vision N
www.vision-n.de

Vision Tools
www.vision-tools.com

Visionlink
www.visionlink.it

Vistek
www.vistekas.com

Vitronic
www.vitronic.com

VMT
www.vmt-gmbh.com

wenglor sensoric
www.wenglor.com

Zertrox
www.zertrox.de

Lighting & Illum Sys

ABW
www.abw-3d.de

Advanced Illumiation
www.advancedillumination.com

Alrad Imaging
www.alrad.co.uk

Allison Park Group
www.apgvision.com

Balluf
www.balluf.de

Baumer
www.baumer.com

BFI Optilas
www.bfioptilas.com

Bock Optronics
www.bockoptronics.ca

Büchner Lichtsysteme
www.buechner-lichtsysteme.de

Cavitar
www.cavitar.com

CCS Europe
www.ccs-grp.com

Ceres Vision
www.ceresvision.de

Chromasens
www.chromasens.de

Cognex
www.cognex.com

Coherent
www.coherent.com

Computer BV
www.computerbv.de

Data Vision
www.datvision.com

DCM Sistemes
www.dcmsistemes.com

Dedo Weigert
www.dedoweigertfilm.de

Digital West Imaging
www.DigitalWestimaging.com

Edmund Optics
www.edmundoptics.de

Effilux
www.effilux.fr

Erhard + Leimer
www.erhardt-leimer.com

Fabrimex Systems
www.fabrimex-systems.ch

Falcon LED Lighting
www.falcon-lighting.de

Faseroptik Henning
www.faseroptik-henning.de

Fiberoptics Technology
www.fiberoptix.com

FiberVision
www.fibervision.de

Finger
www.finger-kg.de

Framos
www.framos.eu

Frankfurt Laser Company
www.frlaser.com

FSI Technologies
www.fsinet.com

G4 Technology
www.g4.com.tw

Gardasoft Vision
www.gardasoft.com

Global Laser
www.global-lasertech.co.jp

GPP Chemnitz
www.gppc.de

Hamamatsu Photonics
www.hamamatsu.com

Hema
www.hema.de

HGV Vosseler
www.hgv.de

Karlheinz Hinze Optoengineering
www.hinze-opto.de

Helmut Hund GmbH
www.hund.de

IB/E Optics
www.ibe-optics.com

iiM
www.iimag.de

ILEE
www.ilee.ch

Image House
www.imagehouse.dk

Image S
www.imagessrl.com

IS Imaging Solutions
www.imaging-solutions.de

Omron
www.industrial.omron.de

Infaimon
www.infaimon.com

Insensiv
www.insensiv.de

Jenoptik Laser, Optik, Systeme
www.jenoptik-los.de

Japan F.A. Systems Corporation
www.jfas.co.jp

Keyence
www.keyence.de

Klastech GmbH
www.klastech.com

Klughammer
www.klughammer.de

Kvant
www.kvant.sk

Lambda Photometrics
www.lambdaphoto.co.uk

Laser 2000
www.laser2000.de

Laser Components
www.lasercomponents.com

LAT elektronik AB
www.latab.se

LDD Trading Associates, LLC
www.LDDLIGHT.com

Leitner Industrial Endoscopy
www.leitner-efer.de

LEJ Leistungselektronik Jena
www.lej.de

Leutron Vision
www.leutron.com

LMI Technologies
www.lmitechnologies.com

LOT Oriel
www.lot-oriel.com

Luster LightVision Tech
www.lusterinc.com

Matrix Vision
www.matrix-vision.de

MaxxVision
www.maxxvision.com

Menzel Vision and Robotics
www.menzelab.com

ination
stems

tecin
www.tecin.de

Tekno Optik
www.teknooptik.se

Tema
www.temavisio.com

The Imaging Source
www.theimagingnsource.com

OBE Ohnmacht & Baumgärtner
www.trevista.net

Univision
www.univision.it

Visiolaser
www.vannier-photelec.fr/visiolaser

V Cubed
www.vcubed.co.uk

Vialux
www.vialux.de

visicontrol
www.visicontrol.com

Vision & Control
www.vision-control.com

Second2None
www.visiondragon.com

Vision Light Tech
www.visionlighttech.com

Visionlink
www.visionlink.it

Visionlink srl
www.visionlink.it

Vision Tools
www.vision-tools.com

Visitool
www.visitool.de

Vistas
www.vistas-gmbh.de

Vistek
www.vistekas.com

Volpi
www.volpi.ch

Herbert Waldmann
www.waldmann.com

Weiss Imaging and Solutions
www.weiss-imaging.de

wenglor sensoric
www.wenglor.com

Zertrox
www.zertrox.de

Metaphase Technologies
www.metaphase-tech.com

MG Optical Solutions
www.mgopticalsolutions.com

Microscan
www.microscan.com

Microsystems
www.microsystems.it

Collischon Optik-Design
www.mikro-optik.de

MikroVision
www.mikrovision.de

Moritex
www.moritex.com

msiVision
www.msivision.com

MTD
www.mtd-light.com

Myutron
www.myutron.com

NET
www.net-gmbh.com

NeuPro Solutions
www.neupro-solutions.com

Odem Technologies
www.odem.co.il

Olympus
www.olympus-europa.com

Omicron Laserage
www.omicron-laser.de

Opto Sonderbedarf
www.opto.de

Opto Engineering
www.opto-engineering.com

Optometron
www.optometron.de

OptoPolymer
www.optopolymer.de

Opto Precision
www.optoprecision.de

Orbis
www.orbis.eu

Parameter
www.parameter.se

PerkinElmer Optoelectronics
www.perkinelmer.com

Phaer
www.phaer.be

Phlox
www.phlox-gc.com

Phytec Messtechnik
www.phytec.de

pi4_robotics
www.pi4.de

Planistar Lichttechnik
www.planistar.de

POG Präzisionsoptik Gera
www.pog.eu

Polytec
www.polytec.com

Power Technology, Inc.
www.powertechnology.com

Profactor
www.profactor.at

Qualimatest
www.qmt.ch

Rauscher
www.rauscher.de

Rheintacho Messtechnik
www.rheintacho.com

RH Engineering
www.rhengineering.de

Special Application Products
www.sapltd.co.uk

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

Schmachtl
www.schmachtl.at

Jos. Schneider Optische Werke
www.schneiderindustrialoptics.com

Schott AG Lighting and Imaging
www.schott.com

Sedeco Vision Components
www.sedeco.nl

Seiwa Optical
www.seiwaopt.co.jp

Sharp Microelectronics
www.sharpsme.com

Sill Optics
www.silloptics.de

Smart Vision Lights
www.smartvisionlights.com

Soliton Technologies
www.solitontech.com

Spectrum Illumination
www.spectrumillumination.com

Stemmer Imaging
www.stemmer-imaging.com

StockerYale
www.stockeryale.com

STZ Qualitätssicherung und Bildverarbeitung
www.stz-ilmenau.de

Schäfter + Kirchhoff
www.sukhamburg.de

SVS Vistek
www.svs-vistek.com

Symco
www.symco.co.jp

Frame Grabber

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

EHD imaging GmbH
www.ehd.de

Ellips
www.ellips.nl

Eltec Elektronik
www.eltec.com

Epix
www.epixinc.com

Fabrimex Systems
www.fabrimex-systems.ch

Fast
www.fast-corp.co.jp

Framos
www.framos.eu

G4 Technology
www.g4.com.tw

Gidel
www.gidel.com

HaSoTec
www.hasotec.com

HGV Vosseler
www.hgv.de

IDS
www.ids-imaging.com

Image House
www.imagehouse.dk

Image S
www.imagessrl.com

Imaging Solutions Group
www.isgchips.com

Imperx
www.imperx.com

Infaimon
www.infaimon.com

IS Imaging Solutions
www.imaging-solutions.de

Isra Vision
www.isravision.com

Japan F.A. Systems Corporation
www.jfas.co.jp

Karlheinz Hinze Optoengineering
www.hinze-opto.de

Kvant
www.kvant.sk

Lambda Photometrics
www.lambdaphoto.co.uk

Leutron Vision
www.leutron.com

Luster LightVision Tech
www.lusterinc.com

Matrix Vision
www.matrix-vision.de

Matrox Imaging
www.matrox.com/imaging

MaxxVision
www.maxxvision.com

Menzel Vision and Robotics
www.menzelab.com

Microsystems
www.microsystems.it

Mikrotron
www.mikrotron.de

msiVision
www.msivision.com

National Instruments
www.ni.com

Odem Technologies
www.odem.co.il

Orbis
www.orbis.eu

Parameter
www.parameter.se

Phytec Messtechnik
www.phytec.de

pi4_robotics
www.pi4.de

Polytec
www.polytec.com

Qualimatest
www.qmt.ch

Rauscher
www.rauscher.de

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

Schmachtl
www.schmachtl.at

Second2None
www.visiondragon.com

Seldes
www.seldes.com

Sensor to Image
www.sensor-to-image.de

Silicon Software
www.silicon-software.de

Stemmer Imaging
www.stemmer-imaging.com

STZ Qualitätssicherung und Bildverarbeitung
www.stz-ilmenau.de

Sundance Multiprocessor Technology
www.sundance.com

SVS Vistek
www.svs-vistek.com

Symco
www.symco.co.jp

Teledyne Dalsa
www.teledynedalsa.com

The Imaging Source
www.theimagingnsource.com

Videology Imaging Solutions
www.videologyinc.com

ViDiSys
www.vidisys.de

Vision Tools
www.vision-tools.com

Visionlink srl
www.visionlink.it

Vistek
www.vistekas.com

Weiss Imaging and Solutions
www.weiss-imaging.de

Weiss Imaging and Solutions
www.weiss-imaging.de

Microscopes, Endoscopes & Equipment

Alrad Imaging
www.alrad.co.uk

AMS Technologies
www.ams.de

Andor Technology
www.andor.com

Mikroskoptechnik Rathenow
www.askania.de

Asylum Research
www.AsylumResearch.com

Atomic Force
www.atomicforce.de

Awaiba
www.awaiba.com

Bock Optronics
www.bockoptronics.ca

Breitmeier Messtechnik
www.breitmeier.de

Deben UK
www.deben.co.uk

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

Edmund Optics
www.edmundoptics.de

EHD Imaging
www.ehd.de

Eltrotec Sensor
www.eltrotec.com

Fei Company
www.fei.com

Fort SA
www.fort-fr.com

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

G4 Technology
www.g4.com.tw

GE Inspection Technology
www.geinspectiontechnologies.com

Heliotis AG
www.heliotis.ch

Karlheinz Hinze Optoengineering
www.hinze-opto.de

Hipp Endoskop Service
www.hipp-endoskopservice.com

Horn Imaging
www.horn-imaging.de

Helmut Hund GmbH
www.hund.de

Infaimon
www.infaimon.com

Infinity Photo-Optical
www.infinity-de.com

Karl Storz
www.karlstorz.de

Kdorf Automation
www.kdorf.de

Keyence
www.keyence.de

Klughammer
www.klughammer.de

Kvant
www.kvant.sk

Leica Microsystems
www.leica-microsystems.com

Leitner Industrial Endoscopy
www.leitner-efer.de

LOT Oriel
www.lot-oriel.com

MBR
www.mbr-gmbh.com

Micos
www.micos.ws

MikroVision
www.mikrovision.de

Mitutoyo
www.mitutoyo.de

Moritex
www.moritex.com

msiVision
www.msivision.com

NanoFocus
www.nanofocus.de

Nanosurf
www.nanosurf.com

Nikon
www.nikoninstruments.eu

Olympus
www.olympus-europa.com

Opto Sonderbedarf
www.opto.de

OptoMess
www.optomess.de

Optometron
www.optometron.de

Optoprim
www.optoprim.de

Oxford Instruments
www.oxford-instruments.com

PCE Power Control
www.pce-powercontrol.de

Physik Instrumente
www.pi.ws

pi4_robotics
www.pi4.de

Pro Design Electronic GmbH
www.prodesign-europe.com

Panasonic
www.pss.panasonic.eu/microcameras

Richard Wolf
www.richard-wolf.com

Rubroeder
www.rubroeder.de

Schäfer Technologie
www.schaefer-tec.com

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

Seiwa Optical
www.seiwaopt.co.jp

Seldes
www.seldes.com

STZ Qualitätssicherung und Bildverarbeitung
www.stz-ilmenau.de

tecin
www.tecin.de

Tekno Optik
www.teknooptik.se

Thermosensorik
www.thermosensorik.de

Vega Technology Group
www.vegatcgroup.com

Vision Engineering
www.visioneng.de

Visitool
www.visitool.de

Walter Uhl
www.walteruhl.de

Weiss Imaging and Solutions
www.weiss-imaging.de

Werth Messtechnik
www.werthmesstechnik.de

Wild
www.wild.at

Carl Zeiss Microimaging
www.zeiss.de/mikro

Optics

Allied Vision Technologies
www.alliedvisiontec.com

Alrad Imaging
www.alrad.co.uk

AMS Technologies
www.ams.de

Anteryon
www.anteryon.com

Armstrong Optical
www.armstrongoptical.co.uk

Awaiba
www.awaiba.com

Azure Photonics
www.azurephotonics.com

Baumer
www.baumer.com

Berliner Glas KGaA Herbert Kubatz GmbH & Co.
www.berlinerglas.com

BFI Optilas
www.bfioptilas.com

B & M Optik
www.bm-optik.de

Bock Optronics
www.bockoptronics.ca

CBC Deutschland
www.cbc-de.com

Computer BV
www.computerbv.de

Cosyco
www.cosyco.de

Data Vision
www.datvision.com

Deposition Sciences
www.depsci.com

Devitech
www.devitech.dk

Docter Optics
www.docter-optics.com

Edmund Optics
www.edmundoptics.de

EHD imaging GmbH
www.ehd.de

Eltrotec Sensor
www.eltrotec.com

Eureca Messtechnik
www.eureca.de

Fabrimex Systems
www.fabrimex-systems.ch

FiberVision
www.fibervision.de

Finger
www.finger-kg.de

Fisba Optik
www.fisba.ch

Framos
www.framos.eu

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

Fujinon
www.fujinon.de

G4 Technology
www.g4.com.tw

Goyo Optical
www.goyooptical.com

Karlheinz Hinze Optoengineering
www.hinze-opto.de

Holoeye Photonics
www.holoeye.com

Helmut Hund GmbH
www.hund.de

IB/E Optics
www.ibe-optics.com

IDS
www.ids-imaging.com

iiM
www.iimag.de

Image House
www.imagehouse.dk

Image S
www.imagessrl.com

IS Imaging Solutions
www.imaging-solutions.de

IMT
www.imtag.ch

Omron
www.industrial.omron.de

Infaimon
www.infaimon.com

BK Interferenzoptik
www.interferenzoptik.de

Ircam
www.ircam.de

Jenoptik Laser, Optik, Systeme
www.jenoptik-los.de

Jenoptik Polymersystems
www.jenoptik-ps.de

Japan F.A. Systems Corporation
www.jfas.co.jp

KeeKoon Electronics
www.keekoon.com

Keyence
www.keyence.de

Kowa Europe GmbH
www.kowa.eu

Shenzhen Kuangshi Communication Technology
www.ksfiberoptic.com

Kvant
www.kvant.sk

Lambda Photometrics
www.lambdaphoto.co.uk

Laser 2000
www.laser2000.de

Laser Components
www.lasercomponents.com

Leica Geosystems
www.leica-geosystems.com/metrology

Lensation
www.lensation.de

Leoni
www.leoni-fiber-optics.com

Lincoln Laser Company
www.lincolnlaser.com

Linos Photonics
www.linos.de

LMI Technologies
www.lmitechnologies.com

LOT Oriel
www.lot-oriel.com

Luster LightVision Tech
www.lusterinc.com

Matrix Vision
www.matrix-vision.de

MaxxVision
www.maxxvision.com

Menzel Vision and Robotics
www.menzelab.com

Meuser Optik
www.meuser-optik.com

MG Optical Solutions
www.mgopticalsolutions.com

Micos
www.micos.ws

Microsystems
www.microsystems.it

Midwest Optical Systems
www.midopt.com

Collischon Optik-Design
www.mikro-optik.de

Moeller-Wedel Optical
www.moeller-wedel-optical.com

Molenaar Optics
www.molenaar-optics.com

Moritex
www.moritex.com

msiVision
www.msivision.com

Myutron
www.myutron.com

Navitar
www.navitar.com

NET
www.net-gmbh.com

NeuPro Solutions
www.neupro-solutions.com

Odem Technologies
www.odem.co.il

Olympus
www.olympus-europa.com

Optec
www.optec.eu

Optics Balzers
www.opticsbalzers.com

Opto Sonderbedarf
www.opto.de

Opto Engineering
www.opto-engineering.com

Optometron
www.optometron.de

Opto Precision
www.optoprecision.de

Orbis
www.orbis.eu

Parameter
www.parameter.se

Pentax
www.pentax.de

Phaer
www.phaer.be

Photonic Products
www.photonic-products.com

pi4_robotics
www.pi4.de

POG Präzisionsoptik Gera
www.pog.eu

Polytec
www.polytec.com

Profactor
www.profactor.at

Qioptiq
www.qioptiq.com

Qualimatest
www.qmt.ch

Rauscher
www.rauscher.de

Resolve Optics
www.resolveoptics.com

RH Engineering
www.rhengineering.de

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

Schmachtl
www.schmachtl.at

Jos. Schneider Optische Werke
www.schneiderindustrialoptics.com

Schott AG Lighting and Imaging
www.schott.com

Sedeco Vision Components
www.sedeco.nl

Seiwa Optical
www.seiwaopt.co.jp

Sill Optics
www.silloptics.de

Space
www.spacecom.co.jp

Spectros
www.spectros.ch

Spectrum Illumination
www.spectrumillumination.com

Stemmer Imaging
www.stemmer-imaging.com

STZ Qualitätssicherung und Bild-verarbeitung
www.stz-ilmenau.de

Sugitoh
www.sugitoh.jp

Schäfter + Kirchhoff
www.sukhamburg.de

Sunex
www.sunex.com

SVS Vistek
www.svs-vistek.com

Symco
www.symco.co.jp

Tamron
www.tamron.de

Tekno Optik
www.teknooptik.se

Tekstar Optical
www.tekstaroptical.com

The Imaging Source
www.theimagingnsource.com

Thermosensorik
www.thermosensorik.de

Vega Technology Group
www.vegatcgroup.com

Videology Imaging Solutions
www.videologyinc.com

Videor Technical
www.videor.com

Vision & Control
www.vision-control.com

Second2None
www.visiondragon.com

Vision Light Tech
www.visionlighttech.com

Visionlink srl
www.visionlink.it

Visitool
www.visitool.de

Volpi
www.volpi.ch

VS Technology
www.vst.co.jp

Weiss Imaging and Solutions
www.weiss-imaging.de

Carl Zeiss
www.zeiss.com/lenses4industry

Carl Zeiss IMT
www.zeiss.de

Carl Zeiss Microimaging
www.zeiss.de/mikro

ZygoLOT
www.zygolot.de

www.solino.com
Your source for optic related needs.

Optic
Metrol

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
www.andor.com

Applied Scintillation Technologies
www.appscintech.com

Armstrong Optical
www.armstrongoptical.co.uk

Avantes
www.avantes.com

Benteler Maschinenbau
www.benteler.de/maschinenbau

Bentham Instruments
www.bentham.co.uk

Berliner Glas
www.berlinerglas.de

Breitmeier Messtechnik
www.breitmeier.de

Breuckmann
www.breuckmann.com

BST International
www.bst-international.com

Carl Zeiss IMT
www.zeiss.de

Carl Zeiss Microimaging
www.zeiss.de/mikro

Chunghwa Telecommunication Laboratories
www.leadinglight.com.tw

CMC Kuhnke
www.cmc-kuhnke.de

ColorLite
www.colorlite.de

Confovis GmbH
www.confovis.com

Dantec Dynamics
www.dantecdynamics.com

Datapixel
www.datapixel.com

Delta Digital Video
www.delta.dk

Digital Surf
www.digitalsurf.com

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

Dr. Wehrhahn Messsysteme
www.drwehrhahn.com

Dyoptyka
www.dyoptyka.com

EHD Imaging
www.ehd.de

Electronic Systems
www.electronicsystems.it

ElektroPhysik Dr. Steingroever GmbH
www.elektrophysik.com

Eltromat
www.eltromat.de

Eltrotec Sensor
www.eltrotec.com

EVK DI Kerschhaggl GmbH
www.evk.biz

Farbmessung Schröder
www.farbmessung.com

Faro
www.faro.com

FJW Optical Systems
www.findrscope.com

Flir Systems
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
www.g4.com.tw

GE Sensing & Inspection Technologies GmbH
www.gesensinginspection.com

GF Messtechnik
www.gfmesstechnik.de

GOM
www.gom.com

Goodrich/SUI
www.sensorsinc.com

Goratec
www.goratec.de

Hamamatsu Photonics
www.hamamatsu.com

Heitronics Infrarot Messtechnik
www.heitronics.com

Hexagon Metrology
www.hexagonmetrology.net

HGV Vosseler
www.hgv.de

Hipp Endoskop Service
www.hipp-endoskopservice.com

Hommel Etamic
www.hommel-etamic.de

IB/E Optics
www.ibe-optics.com

Ico Data
www.icodata.de

iiM
www.iimag.de

ILEE
www.ilee.ch

Imetric
www.imetric.com

Infaimon
www.infaimon.com

Infinity Photo-Optical
www.infinity-de.com

InfraTec
www.infratec.de

Innowep
www.innowep.com

InSystems Automation
www.insystems.de

Intacton
www.intacton.de

Isis Optronics
www.isis-optronics.de

Isi-sys
www.isi-sys.com

Jenoptik Laser, Optik, Systeme
www.jenoptik-los.de

Jos. Schneider Optische Werke
www.schneiderindustrialoptics.com

Kleiber Infrared
www.kleiberinfrared.com

Konica Minolta
www.konicaminolta.eu

Kreon Technologies
www.kreon3d.com

Lambda Photometrics
www.lambdaphoto.co.uk

LamTech
www.lamtech.de

Land Instruments
www.landinst.com

LAP
www.lap-laser.com

Laser 2000
www.laser2000.de

Laser Components
www.lasercomponents.com

Laser Quantum
www.laserquantum.com

LayTec GmbH
www.laytec.de

LDV Systeme
www.ldv-systeme.de

Leica Geosystems
www.leica-geosystems.com/metrology

Leitner Industrial Endoscopy
www.leitner-efer.de

Limess
www.limess.com

LOT Oriel
www.lot-oriel.com

Mahr
www.mahr.de

Meta Vision Systems
www.meta-mvs.co.uk

Metris
www.metris.com

MG Optical Solutions
www.mgopticalsolutions.com

Mikropack
www.mikropack.de

Mitutoyo
www.mitutoyo.de

Moeller-Wedel Optical
www.moeller-wedel-optical.com

Molenaar Optics
www.molenaar-optics.com

Moritex
www.moritex.com

m-u-t
www.mut-group.com

Mycrona
www.mycrona.de

NanoFocus
www.nanofocus.de

Nikon Metrology GmbH
www.nikonmetrology.com

Novacam Technologies Inc.
www.novacam.com

NTI
www.nti-measure.com

nub3d
www.nub3d.com

Odem Technologies
www.odem.co.il

OGP Messtechnik
www.ogpmesstechnik.de

Olympus
www.olympus-europa.com

opsira GmbH
www.opsira.de

Optimet Optical Metrology
www.optimet.com

Opto Fidelity
www.optofidelity.com

Opto Precision
www.optoprecision.de

Opto Sonderbedarf
www.opto.de

OptoMess
www.optomess.de

Optometron
www.optometron.de

OptoPolymer
www.optopolymer.de

Optoprim
www.optoprim.de

OptoSurf
www.optosurf.com

Optris
www.optris.de

Orbis
www.orbis.eu

Oxford Instruments
www.oxford-instruments.com

Parameter
www.parameter.se

Pentacon
www.pentacon.de

Perceptron
www.perceptron.com

PerkinElmer Optoelectronics
www.perkinelmer.com

Phaer
www.phaer.be

phoenix|x-ray
www.phoenixxray.com

Phynix
www.phynix.de

pi4_robotics
www.pi4.de

Plasmo Industrietechnik
www.plasmo.eu

Polygon
www.polygon-technology.de

Polytec
www.polytec.de

Precitec Optronik
www.precitec-optronik.de

Premosys
www.premosys.com

Princeton Instruments
www.princetoninstruments.com

Proxitronic
www.proxitronic.com

Quest Innovations
www.quest-innovations.com

Raytek
www.raytek.de

Rheintacho Messtechnik GmbH
www.rheintacho.com

Richard Wolf
www.richard-wolf.com

Roper Scientific
www.roperscientific.de

Rudolph Technologies
www.rudolphtech.com

Schäfer Technologie
www.schaefer-tec.com

Sensor Instruments
www.sensorinstruments.de

SGM Schut
www.schut.com

Shape Drive GmbH
www.shape-drive.com

Sick
www.sick.com

SIOS Meßtechnik
www.sios.de

SKS Vision Systems
www.visionsystems.fi

Soliton
www.soliton-gmbh.de

Specim Spectral Imaging
www.specim.fi

Steinbichler Optotechnik
www.steinbichler.com

Stiefelmayer
www.stiefelmayer.de

STIL
www.stilsa.com

SynView GmbH
www.synview.com

Taylor Hobson
www.taylor-hobson.com

tec5
www.tec5.com

TechnoTeam
www.technoteam.de

Tekno Optik
www.teknooptik.se

Topometric
www.topometric.net

Tordivel
www.scorpionvision.com

Ulis
www.ulis-ir.com

Vialux
www.vialux.de

Videometer
www.videometer.com

Visiolaser
www.vannier-photelec.fr/visiolaser

Vision Machines
www.vision-machines.com

ViZaar
www.vizaar.de

Volform
www.volform.se

Wente/Thiedig
www.wente-thiedig.de

Werth Messtechnik
www.werthmesstechnik.de

Wild
www.wild.at

Xenics
www.xenics.com

X-Rite
www.xrite.com

Yxlon International
www.yxlon.com

Z-Laser
www.z-laser.com

Zwick
www.zwick.de

ZygoLOT
www.zygolot.de

IMPRINT

Processors, Interfaces, Cables, Peripherals

ABS
www.abs-jena.de

Active Silicon
www.activesilicon.com

Adaptive Vision
www.adaptive-vision.com

Aerotech GmbH
www.aerotech.com

Allied Vision Technologies
www.alliedvisiontec.com

Alysium-Tech
www.alysium-tech.com

AMS Technologies
www.ams.de

AnaLogic Computers
www.analogic-computers.com

Andon Electronics
www.andonelect.com

Arvoo Imaging Products
www.arvoo.com

autoVimation
www.autovimation.com

BAP Image Systems
www.bapis.de

Bock Optronics
www.bockoptronics.ca

Components Express
www.componentsexpress.com

Computer BV
www.computerbv.de

D.SignT
www.dsignt.de

de Man Industrie-Automation
www.deman.de

Diaplous
www.diaplous.com

DSM Computer
www.dsm.ag

Eltec Elektronik
www.eltec.com

Eltrotec Sensor
www.eltrotec.com

Epix
www.epixinc.com

Ernst & Engbring GmbH & Co. KG
www.eue-kabel.de

eVision Systems
www.aivion.de

Fabrimex Systems
www.fabrimex-systems.ch

FiberVision
www.fibervision.de

Framos
www.framos.eu

G4 Technology
www.g4.com.tw

Gidel
www.gidel.com

GigaLinx
www.gigalinx.net

HaSoTec
www.hasotec.com

Hema
www.hema.de

HGV Vosseler
www.hgv.de

IDS
www.ids-imaging.com

igus
www.igus.de

Image House
www.imagehouse.dk

Image S
www.imagessrl.com

Imaging Solutions Group
www.isgchips.com

Imago
www.strampe.de

Infaimon
www.infaimon.com

Intercon1
www.intercon-1.com

Japan F.A. Systems Corporation
www.jfas.co.jp

Kamiera
www.kamiera.com

Lemo
www.lemo.com

Leoni
www.leoni-fiber-optics.com

LMI Technologies
www.lmitechnologies.com

Luster LightVision Tech
www.lusterinc.com

Mad City Labs, Inc.
www.madcitylabs.com

Matrix Vision
www.matrix-vision.de

Matrox Imaging
www.matrox.com/imaging

MaxxVision
www.maxxvision.com

MaZet
www.mazet.de

Menzel Vision and Robotics
www.menzelab.com

Micron
www.micron.com

Microsystems
www.microsystems.it

Mikrotron
www.mikrotron.de

Newnex Technology
www.newnex.com

Northwire Technical Cable
www.northwire.com

Orbis
www.orbis.eu

Parameter
www.parameter.se

Phytec Messtechnik
www.phytec.de

pi4_robotics
www.pi4.de

Pleora Technologies
www.pleora.com

Pro Design Electronic GmbH
www.prodesign-europe.com

Schmachtl
www.schmachtl.at

Seidenader
www.seidenader.de

Seldes
www.seldes.com

sglux GmbH
www.sglux.com

Silicon Software
www.silicon-software.de

Stemmer Imaging
www.stemmer-imaging.com

STZ Qualitätssicherung und Bildverarbeitung
www.stz-ilmenau.de

Supercomputing Systems
www.scs-vision.ch

SVS Vistek
www.svs-vistek.com

Symco
www.symco.co.jp

Teledyne Dalsa
www.teledynedalsa.com

The Imaging Source
www.theimagingnsource.com

Thinklogical
www.thinklogical.com

Unibrain
www.unibrain.com

ViDiSys
www.vidisys.de

Vision & Control
www.vision-control.com

Vision Tools
www.vision-tools.com

Vistas
www.vistas-gmbh.de

Xilinx
www.xilinx.com

Software

A&B Software
www.ab-soft.com

ABW
www.abw-3d.de

Adaptive Vision
www.adaptive-vision.com

Alditech
www.alditech.ru

Alfavision
www.alfavision.de

Alicona Imaging
www.alicona.com

Alliance Vision
www.alliancevision.com

Alrad Imaging
www.alrad.co.uk

AMS Technologies
www.ams.de

AnaLogic Computers
www.analogic-computers.com

Andor Technology
www.andor.com

AOS Technologies
www.aostechnologies.com

Aqsense
www.aqsense.com

Artray
www.artray.co.jp

Asentics
www.asentics.de

attentra
www.attentra.de

Baumer
www.baumer.com

Braintech
www.braintech.com

Cimetrix
www.cimetrix.com

Cognex
www.cognex.com

Computer BV
www.computerbv.de

Cosyco
www.cosyco.de

Data Vision
www.datvision.com

de Man Industrie-Automation
www.deman.de

dhs Solutions
www.dhssolution.com

Digital Surf
www.digitalsurf.com

Duwe 3D
www.duwe-3d.de

Dynalog
www.dynalog-us.com

ebs Automatisierte Thermographie und Systemtechnik
www.irpod.net

EHD Imaging
www.ehd.de

Eltec Elektronik
www.eltec.com

Eltrotec Sensor
www.eltrotec.com

Energid
www.energid.com

Epix
www.epixinc.com

Erhard + Leimer
www.erhardt-leimer.com

Euresys
www.euresys.com

EVT Eye Vision Techology
www.evt-web.com

Fabrimex Systems
www.fabrimex-systems.ch

Fast
www.fast-corp.co.jp

FDS Research
www.fdsresearch.si

FiberVision
www.fibervision.de

Flir Systems
www.flirthermography.de

Framos
www.framos.eu

FSI Technologies
www.fsinet.com

G4 Technology
www.g4.com.tw

GBS
www.gbs-ilmenau.de

Gefasoft
www.gefasoft.com

Geomagic
www.geomagic.com

Gevicam
www.gevicam.com

Goldlücke Ingenieurleistungen
www.giib.de

Graphikon
www.graphikon.de

HaSoTec
www.hasotec.com

HGV Vosseler
www.hgv.de

IB/E Optics
www.ibe-optics.com

IDS
www.ids-imaging.com

iiM
www.iimag.de

Image House
www.imagehouse.dk

Image S
www.imagessrl.com

Imagic
www.imagic-imaging.com

Imaging Lab
www.imaginglab.it

Imatec
www.imatec-bildanalyse.com

Impuls
www.impuls-imaging.com

INB Vision
www.inb-vision.com

Industrial Vision Systems
www.industrialvision.co.uk

Infaimon
www.infaimon.com

InRay Solutions
www.inrays.com

in-situ
www.in-situ.de

Ircam
www.ircam.de

IS Imaging Solutions
www.imaging-solutions.de

Isomorph
www.isomorph.it

Isra Vision
www.isravision.com

IVS
www.industrialvision.co.uk

Japan F.A. Systems Corporation
www.jfas.co.jp

JasVisio
www.visiomint.com

Joanneum Research
www.joanneum.at

Kappa opto-electronics
www.kappa.de

Karlheinz Hinze Optoengineering
www.hinze-opto.de

Klughammer
www.klughammer.de

Kvant
www.kvant.sk

Lambda Photometrics
www.lambdaphoto.co.uk

Lambda Research Corporation
www.lambdares.com

Leica Geosystems
www.leica-geosystems.com/
metrology

Leica Microsystems
www.leica-microsystems.com

Leutron Vision
www.leutron.com

LMI Technologies
www.lmitechnologies.com

Luster LightVision Tech
www.lusterinc.com

Math & Tech Engineering GmbH
www.mathtech.eu

Matrix Vision
www.matrix-vision.de

Matrox Imaging
www.matrox.com/imaging

MaxxVision
www.maxxvision.com

Menzel Vision and Robotics
www.menzelab.com

Metronom Automation
www.metronom-automation.de

Micro Epsilon
www.micro-epsilon.com

Microscan
www.microscan.com

Microsystems
www.microsystems.it

Mikromak Service
www.mikromak.com

Mitutoyo
www.mitutoyo.de

msiVision
www.msivision.com

MVTec Software
www.mvtec.com

National Instruments
www.ni.com

neogramm GmbH & Co. KG
www.neogramm.de

Neurocheck
www.neurocheck.com

Norpix
www.norpix.com

OBE Ohnmacht & Baumgärtner
www.trevista.net

Odem Technologies
www.odem.co.il

Olympus
www.olympus-europa.com

Omron
www.industrial.omron.de

Optical Research Associates
www.opticalres.com

Optis
www.optis-world.com

Optometron
www.optometron.de

Orbis
www.orbis.eu

Parameter
www.parameter.se

Photonfocus
www.photonfocus.com

pi4_robotics
www.pi4.de

Pleora Technologies
www.pleora.com

Polytec
www.polytec.com

Profactor
www.profactor.at

Qualimatest
www.qmt.ch

Rapidform
www.rapidform.com

Rauscher
www.rauscher.de

RH Engineering
www.rhengineering.de

Rubroeder
www.rubroeder.de

SAC
www.sac-vision.de

Schmachtl
www.schmachtl.at

Second2None
www.visiondragon.com

Sedeco Vision Components
www.sedeco.nl

SensorDesk, Inc.
www.SensorDesk.com

Silicon Software
www.silicon-software.de

Simon IBV
www.simon-ibv.de

SmartSurv
www.smartsurv.de

SPG Data 3D
www.spgdata3d.com

Stemmer Imaging
www.stemmer-imaging.com

STZ Qualitätssicherung und Bildverarbeitung
www.stz-ilmenau.de

Supercomputing Systems
www.scs-vision.ch

SVS Vistek
www.svs-vistek.com

Symco
www.symco.co.jp

Tekno Optik
www.teknooptik.se

Teledyne Dalsa
www.teledynedalsa.com

Tema
www.temavisio.com

The Imaging Source
www.theimagingnsource.com

The MathWorks
www.mathworks.com

Thermosensorik
www.thermosensorik.de

Tordivel
www.scorpionvision.com

TriVision
www.trivision.dk

TYZX, Inc.
www.tyzx.com

Univision
www.univision.it

Van de Loosdrecht Machine Vision
www.vdlmv.nl

Vega Technology Group
www.vegatcgroup.com

visicontrol
www.visicontrol.com

Visiolaser
www.vannier-photelec.fr/visiolaser

Vision & Control
www.vision-control.com

Vision Components
www.vision-components.com

Vision Machines
www.vision-machines.com

Vision N
www.vision-n.de

Vision Tools
www.vision-tools.com

Visionlink
www.visionlink.it

Vistek
www.vistekas.com

Vitronic
www.vitronic.com

Vizzion, Inc.
www.vizzion.com

Weiss Imaging and Solutions
www.weiss-imaging.de

Wenzel
www.wenzel-cmm.com

X-Rite
www.xrite.com

Zertrox
www.zertrox.de

Vision Sensors, Smart Caméras & Embedded Systems

Active Silicon
www.activesilicon.com

Adaptive Vision
www.adaptive-vision.com

AIT Göhner
www.VisionAndID.com

Alfavision
www.alfavision.de

AMS Technologies
www.ams.de

Applied Scintillation Technologies
www.appscintech.com

Asentics
www.asentics.de

Awaiba
www.awaiba.com

Banner Engineering
www.bannerengineering.com

Basler Vision Technologies
www.baslerweb.com

Baumer
www.baumer.com

Camsensor Technologies
www.camsensor.com

Cmos Vision
www.cmosvision.com

CMOSIS
www.cmosis.com

Cognex
www.cognex.com

Compar
www.compar.ch

Computer BV
www.computerbv.de

Computer Dynamics
www.cdynamics.com

Cosyco
www.cosyco.de

Datalogic Automation
www.automation.datalogic.com

Datasensor
www.datasensor.com

de Man Industrie-Automation
www.deman.de

Diaplous
www.diaplous.com

Directed Perception
www.DPerception.com

di-soric
www.di-soric.de

Eltec Elektronik
www.eltec.com

Eltrotec Sensor
www.eltrotec.com

Erhard + Leimer
www.erhardt-leimer.com

EVT Eye Vision Techology
www.evt-web.com

Fabrimex Systems
www.fabrimex-systems.ch

FastVision
www.fast-vision.com

Festo
www.festo.com

FiberVision
www.fibervision.de

Finger
www.finger-kg.de

FSI Technologies
www.fsinet.com

G4 Technology
www.g4.com.tw

Graphikon
www.graphikon.de

Hans Turck
www.turck.com

Hema
www.hema.de

HGV Vosseler
www.hgv.de

IBN
www.ibn-gmbh.de

ifm Electronic
www.ifm.de

Image House
www.imagehouse.dk

Image S
www.imagessrl.com

Imaging Solutions Group
www.isgchips.com

Imago Technologies
www.imago-technologies.com

Imagsa Technologies
www.imagsa.com

IMR Automatisierungstechnik
www.imr-le.de

Infaimon
www.infaimon.com

IOS
www.ios-web.de

IOSS
www.ioss.de

ipf Electronic
www.ipf-electronic.de

IS Imaging Solutions
www.imaging-solutions.de

Isra Vision
www.isravision.com

ISW
www.isw-gmbh.biz

Itava
www.itava.de

Japan F.A. Systems Corporation
www.jfas.co.jp

K + P Krempien + Petersen
www.kup-image.de

Kamiera
www.kamiera.com

Keyence
www.keyence.de

Kontron
www.kontron.com

Lambda Photometrics
www.lambdaphoto.co.uk

Leutron Vision
www.leutron.com

Leuze Electronic
www.leuze.com

LMI Technologies
www.lmitechnologies.com

Lord Ingenierie
www.lord-ing.com

Luster LightVision Tech
www.lusterinc.com

Matrix Vision
www.matrix-vision.de

Matrox Imaging
www.matrox.com/imaging

MaxxVision
www.maxxvision.com

MaZet
www.mazet.de

Menzel Vision and Robotics
www.menzelab.com

Micro Epsilon
www.micro-epsilon.com

Microscan
www.microscan.com

Microsystems
www.microsystems.it

msiVision
www.msivision.com

National Instruments
www.ni.com

NeuPro Solutions
www.neupro-solutions.com

Neuricam
www.neuricam.com

Norpix
www.norpix.com

OBE Ohnmacht & Baumgärtner
www.trevista.net

Odem Technologies
www.odem.co.il

Omron
www.industrial.omron.de

Opto Sonderbedarf
www.opto.de

OptoMotive
www.optomotive.si

Orbis
www.orbis.eu

Panasonic Electric Works
www.panasonic-electric-works.de

Parameter
www.parameter.se

Pepperl & Fuchs
www.pepperl-fuchs.com

Peter Scholz Software + Engineering
www.scholzsue.de

Phytec Messtechnik
www.phytec.de

pi4_robotics
www.pi4.de

PMDTec
www.pmdtec.com

Pollux
www.pollux.com.br

Polytec
www.polytec.com

PPT Vision
www.pptvision.com

Profactor
www.profactor.at

Pulsotronic
www.bildverarbeitung.pulsotronic.de

Qualimatest
www.qmt.ch

Rauscher
www.rauscher.de

RSB Optotechnik
www.rsb-optotechnik.de

SAC
www.sac-vision.de

Schmachtl
www.schmachtl.at

Schunk
www.schunk.com

Second2None
www.visiondragon.com

Sedeco Vision Components
www.sedeco.nl

SensoPart Industriesensorik
www.sensopart.de

Sensor to Image
www.sensor-to-image.de

Shape Drive GmbH
www.shape-drive.com

Sharp Microelectronics
www.sharpsme.com

Sick
www.sick.com

Siemens
www.siemens.de/simatic-sensors/mv

SKS Vision Systems
www.visionsystems.fi

Smartray
www.smartray.de

SmartSurv
www.smartsurv.de

Soliton Technologies
www.solitontech.com

Sony
www.pro.sony.eu/vision

Stemmer Imaging
www.stemmer-imaging.com

Supercomputing Systems
www.scs-vision.ch

SVS Vistek
www.svs-vistek.com

Symco
www.symco.co.jp

Tattile
www.tattile.com

Tekno Optik
www.teknooptik.se

Teledyne Dalsa
www.teledynedalsa.com

Tichawa Vision
www.tichawa.de

topSenso
www.topsenso.de

Tordivel
www.scorpionvision.com

Turck
www.turck.de

TYZX, Inc.
www.tyzx.com

Vega Technology Group
www.vegatcgroup.com

Vialux
www.vialux.de

Videor Technical
www.videor.com

visicontrol
www.visicontrol.com

Visiolaser
www.vannier-photelec.fr/visiolaser

Vision & Control
www.vision-control.com

Vision Components
www.vision-components.com

Vision Tools
www.vision-tools.com

Visionlink
www.visionlink.it

Vistek
www.vistekas.com

VRmagic
www.vrmagic.com

Webview
www.webspec.com

wenglor sensoric
www.wenglor.com

Werth Messtechnik
www.werthmesstechnik.de

Wintriss Engineering
www.weco.com

Ximea GmbH
www.ximea.com

Xiris Automation Inc.
www.xiris.com

Zertrox
www.zertrox.de

Vision Systems, Turnkey Solutions, Integration Services

3D Alliance
www.3dalliance.de

3D Shape
www.3d-shape.com

a&a technologies
www.aa-technologies.de

ABB
www.abb.com

Act Smartware
www.act-smartware.de

Adaptive Vision
www.adaptive-vision.com

Adept Electronic Solutions
www.adept.net.au

Adept Technology
www.adept.de

AGR International
www.agrintl.com

AIT Göhner GmbH
www.VisionAndID.com

aku.automation GmbH
www.aku-automation.de

alfa vision systems
www.alfavisionsystems.com

Alfavision
www.alfavision.de

Alliance Vision
www.alliancevision.com

Altair Industries, Inc.
www.altairindustriesinc.com

Applied Vision
www.appliedvision.com

ASB automation technology
www.asb-technologie.de

Asentics
www.asentics.de

ATM Vision
www.atmvision.com

ATN Automatisierungstechnik
www.atn-gmbh.com

attentra
www.attentra.de

Austrian Research Centers
www.smart-systems.at

Automation Technology
www.automationtechnology.de

Automation W+R
www.automationwr.de

Autoware
www.autoware.it

AVT Advanced Vision Technology
www.avt-inc.com

Balluf
www.balluf.de

Basler Vision Technologies
www.baslerweb.com

Baumer
www.baumer.com

Beratronic
www.beratronic.de

Bertram Elektrotechnik
www.bertram-bevern.de

Bi-Ber
www.bilderkennung.de

Böwe Systec
www.bowesystec.com

Braintech
www.braintech.com

Brainware Solutions
www.brainware-solutions.de

BST International
www.bst-international.com

Camsensor Technologies
www.camsensor.com

Carl Zeiss OIM
www.zeiss.de

Ceres Vision GmbH
www.ceresvision.de

China Daheng Group
www.daheng-image.com

Cognex
www.cognex.com

Coherix
www.coherix.com

Compar
www.compar.ch

Computer BV
www.computerbv.de

Cosyco
www.cosyco.de

CoSynth
www.cosynth.com

Cruse Leppelmann Kognitionstechnik
www.clkgmbh.de

Cyth Systems
www.cyth.com

Datalogic Automation
www.automation.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 GmbH
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

Eltrotec Sensor
www.eltrotec.com

Emhart Glass
www.emhartglass.com

Epix
www.epixinc.com

Epson Deutschland GmbH
www.epson.de/robots

Erhard + Leimer
www.erhardt-leimer.com

EVK DI Kerschaggl
www.evk.biz

EVT Eye Vision Techology
www.evt-web.com

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

Isra Vision AG
www.isravision.com

ISW
www.isw-gmbh.biz

isys Industrielle Bildverarbeitung GmbH & Co. KG
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 Corporation
www.jfas.co.jp

JasVisio - Vision Artificial
www.jasvisio.com

JLI Vision
www.jli.dk

Joanneum Research
www.joanneum.at

K + P Krempien + Petersen
www.kup-image.de

Kaiser Computersysteme
www.isotronika.de

Kdorf Automation
www.kdorf.de

Keyence
www.keyence.de

Kirin Techno-System
www.kirintechno.co.jp

KMS Vision Systems
www.kms-vision.de

L&_P
www.lp-gmbh.de

Laetus
www.laetus.com

Leuze Electronic
www.leuze.com

Limess
www.limess.com

Lincoln Laser Company
www.lincolnlaser.com

Machine Vision Technology
www.machine-vision-technology.co.uk

Menzel Vision and Robotics
www.menzelab.com

Meta Vision Systems
www.meta-mvs.co.uk

Metronom Automation
www.metronom-automation.de

mevisco
www.mevisco.com

Micro Epsilon
www.micro-epsilon.com

Microscan
www.microscan.com

Mikrotron
www.mikrotron.de

Modi Modular Digits
www.modi-gmbh.de

Moser Industrielektronik
www.moser-gmbh.de

MSC Inspection
www.msc.fr

msiVision
www.msivision.com

neogramm GmbH & Co. KG
www.neogramm.de

NeuPro Solutions
www.neupro-solutions.com

Neuricam
www.neuricam.com

Neurocheck
www.neurocheck.com

Neurotechnology
www.neurotechnology.com

Nikon Metrology GmbH
www.nikonmetrology.com

Nokra
www.nokra.de

Norpix
www.norpix.com

Northwire
www.northwire.com

OCS
www.ocsgmbh.com

Octum
www.octum.de

Omron
www.industrial.omron.de

Opsis
www.opsis.de

Optel Vision
www.optelvision.com

OptoFidelity Oy
www.optofidelity.com

OptoNova
www.optonova.se

Orbis
www.orbis.eu

Orbotech
www.orbotech.com

Orus Integration
www.orusintegration.com

Otto Vision Technology GmbH
www.otto-jena.de

Panasonic Electric Works
www.panasonic-electric-works.de

Parameter
www.parameter.se

Pattern Recognition Company
www.pattern-recognition-company.de

Paul Leibinger GmbH
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

Phytec Messtechnik
www.phytec.de

pi4_robotics
www.pi4.de

Pilz
www.pilz.de

Pixargus
www.pixargus.de

Plasmo Industrietechnik
www.plasmo.eu

POG Präzisionsoptik Gera
www.pog.eu

Pollux
www.pollux.com.br

Polygon
www.polygon-technology.de

Polytec
www.polytec.de

PPT Vision
www.pptvision.com

Pressco Technology
www.pressco.com

Profactor
www.profactor.at

Prüftechnik Schneider & Koch
www.prsuk.de

Pulsotronic
www.bildverarbeitung.pulsotronic.de

Qualimatest
www.qmt.ch

Quiss
www.quiss.com

R&W Industrieautomation
www.r-u-w.de

Radix Controls
www.radixcontrols.com

rbc robotics
www.rbc-robotics.de

Recognitec
www.recognitec.de

RH Engineering
www.rhengineering.de

Rohwedder
www.rohwedder.com

RSB Optotechnik
www.rsb-optotechnik.de

Rubroeder
www.rubroeder.de

Rudolph Technologies
www.rudolphtech.com

SAC
www.sac-vision.de

Scanware electronic
www.scanware.de

Schmachtl
www.schmachtl.at

Schönherr Elektronik
www.schoenherr-elektronik.com

Second2None
www.visiondragon.com

Seidenader
www.seidenader.de

Sensor Control
www.sensorcontrol.com

Seritec
www.seritec.de

Servo-Robot
www.servorobot.com

Sidonia Systems
www.sidoniasystems.de

Signum
www.signum-vision.de

Simac Masic
www.simacmasic.nl

Simon IBV
www.simon-ibv.de

SL Tec
www.sltec.de

Smartray
www.smartray.de

Solex
www.solexvision.com

Solving3D
www.solving3d.de

Soma
www.soma.de

SPG Data 3D
www.spgdata3d.com

Steinbichler Optotechnik
www.steinbichler.com

Stöhrmann Systemtechnik
www.stöhrmann.de

Stratec Control Systems
www.bbull.com

STZ Qualitätssicherung und Bildverarbeitung
www.stz-ilmenau.de

Sundance Multiprocessor Technology
www.sundance.com

Surface Inspection
www.surface-inspection.com

SVS Vistek
www.svs-vistek.com

Symacon Engineering
www.symacon.de

Symetix
www.symetix.com

SysCon
www.syscon-vision.de

Systech
www.systech-tips.com

Tattile
www.tattile.com

TechnoTeam
www.technoteam.de

Teledyne Dalsa
www.teledynedalsa.com

Tema
www.temavisio.com

Thermosensorik
www.thermosensorik.de

Tichawa Vision
www.tichawa.de

Tordivel
www.scorpionvision.com

TriVision
www.trivision.dk

TST Technological Solutions
www.tst.pt

TYZX
www.tyzx.com

Univision
www.univision.it

Vega Technology Group
www.vegatcgroup.com

Vester Elektronik
www.vester.de

Videometer
www.videometer.com

View-Factor
www.view-factor.com

Vigitek
www.vigitek.com

Viscom
www.viscom.com

visicontrol
www.visicontrol.com

Visimation
www.visimation.de

Visio Nerf
www.visionerf.com

Visiolaser
www.vannier-photelec.fr/visiolaser

Vision Automation
www.visionautomation.dk

Vision Experts
www.vision-experts.com

Vision Machines
www.vision-machines.com

Vision Projekt
www.vision-projekt.de

Vision Tools
www.vision-tools.com

vision-consult Bildverarbeitung
www.vision-consult.com

Visionlink
www.visionlink.it

VisioTek
www.visiotek.com.tr

Visolution
www.visolution.de

Visotect
www.visotect.de

Vistek
www.vistekas.com

Visuelle Technik
www.visuelle-technik.de

Vitronic
www.vitronic.com

VMT
www.vmt-gmbh.com

V-Research
www.v-research.at

Weber Systemtechnik
www.wesys.de

Weiss Imaging and Solutions
www.weiss-imaging.de

Weitblick Systems
www.weitblick-systems.at

wenglor sensoric
www.wenglor.com

Wente/Thiedig
www.wente-thiedig.de

Wickon Hightech GmbH
www.wickon.com

Wintriss Engineering
www.weco.com

Wolf Systeme
www.wolfsysteme.de

Wolf Systeme AG
www.wolfsysteme.de

Zertrox
www.zertrox.de

Ziemann & Urban
www.ziemann-urban.de

R&D

AIDO
www.aido.es

Alfavision
www.alfavision.de

Alicona Imaging
www.alicona.com

Anafocus
www.anafocus.com

Austrian Research Centers
www.smart-systems.at

Awaiba
www.awaiba.com

BFI Optilas
www.bfioptilas.com

Breuckmann
www.breuckmann.com

Cmos Vision
www.cmosvision.com

CMOSIS
www.cmosis.com

Cognex
www.cognex.com

Collischon Optik-Design
www.mikro-optik.de

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
www.docter-optics.com

Eltec Elektronik
www.eltec.com

Eltrotec Sensor
www.eltrotec.com

Entner Electronics
www.entner-electronics.com

Erhard + Leimer
www.erhardt-leimer.com

FiberVision
www.fibervision.de

Fraunhofer Allianz Vision
www.vision.fraunhofer.de

Fraunhofer IFF
www.mpt.iff.fraunhofer.de

Fraunhofer IMS
www.ims.fraunhofer.de

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

GBS
www.gbs-ilmenau.de

Gevicam
www.gevicam.com

GFal
www.gfai.de

Graphikon
www.graphikon.de

HaSoTec
www.hasotec.com

Helion
www.helionvision.com

HGV Vosseler
www.hgv.de

IDS
www.ids-imaging.com

Imaging Lab
www.imaginglab.it

Impuls
www.impuls-imaging.com

IMS Chips
www.ims-chips.de

Infaimon
www.infaimon.com

Isomorph
www.isomorph.it

Joanneum Research
www.joanneum.at

Kamera Werke Dresden
www.kwdo.de

Kamiera
www.kamiera.com

Kappa opto-electronics
www.kappa.de

Leica Geosystems
www.leica-geosystems.com/
metrology

Lincoln Laser Company
www.lincolnlaser.com

LMI Technologies
www.lmitechnologies.com

Matrix Vision
www.matrix-vision.de

MaZet
www.mazet.de

Mikromak Service
www.mikromak.com

msiVision
www.msivision.com

Norpix
www.norpix.com

Opto Sonderbedarf
www.opto.de

Panavision Imaging
www.panavisionimaging.com

PCO
www.pco.de

Photonfocus
www.photonfocus.com

Phytec Messtechnik
www.phytec.de

pi4_robotics
www.pi4.de

Profactor
www.profactor.at

Sarnoff
www.sarnoff.com

Schäfter + Kirchhoff
www.sukhamburg.de

Sensor to Image
www.sensor-to-image.de

SmartSurv
www.smartsurv.de

SPG Data 3D
www.spgdata3d.com

SPIE
www.spieeurope.org

Stemmer Imaging
www.stemmer-imaging.com

STZ Qualitätssicherung und Bildverarbeitung
www.stz-ilmenau.de

Tekno Optik
www.teknooptik.se

Tema
www.temavisio.com

Thermosensorik
www.thermosensorik.de

Tichawa Vision
www.tichawa.de

Tordivel
www.scorpionvision.com

Univision
www.univision.it

Vega Technology Group
www.vegatcgroup.com

Vision & Control
www.vision-control.com

Vision Machines
www.vision-machines.com

Vision Tools
www.vision-tools.com

Vistek
www.vistekas.com

V-Research
www.v-research.at

Zertrox
www.zertrox.de

Zertrox
www.zertrox.de

Exceptional CMOS Camera with Dual GigE

Increasing the operational capacity while ensuring the desired product quality are challenges every machine builder must address. As a reliable partner, Baumer understands their requirements and supports them with the new HXG camera series.

With the high resolution, up to 2,048 x 2,048 pixels, even tiny details can be inspected to ensure the desired product quality. In combination with global shutter operation, low read out noise and a pixel depth of up to 12 bit, excellent image quality for precise measurements is guaranteed. Additionally the cameras provide a high sensitivity that surpasses even state of the art CCD sensors. Due to the high bandwidth of the new Dual GigE interface more than 50 images per second can be continuously transmitted over distances of up to 100 m. As a consequence, these cameras are the fastest

GigE cameras available on the market and allow very short inspection cycles to maximize production throughput.

Baumer GmbH
Pfingstweide 28
61169 Friedberg
Germany
Tel.: +49 6031 6007 0
Fax: +49 6031 6007 70
sales.de@baumer.com
www.baumer.com/cameras

See our profile on page 26

New LED Light Source for Machine Vision

The new LED light source intraLED 3 from Volpi has a light intensity of over 500 lumens (measured on a 1-meter light guide with an active diameter of 13.5 mm). Activation is done either manually via the integrated RS-232 interface (optional USB) or via the multiport with digital and analog input. The intraLED 3 is available in two variants and is thus compatible with light guides from Volpi and Schott-Fostec. Given these specifications, most applications with 100 watt or 150 watt halogen light sources can now be implemented with an intraLED 3. Replacement of conventional halogen light sources offers the user numerous advantages: the long service life of 50,000 hours, the maintenance-free design and the substantially lower power consumption noticeably reduce total operating costs. The compact enclosure allows use on a small surface and the threaded rails (M4) present

on four sides facilitate smooth system integration.

Volpi AG
Wiesenstr. 33
8952 Schlieren
Switzerland
Tel.: +41 4473 243 43
Fax: +41 4473 243 44
mail@volpi.ch
www.volpi.ch

See our profile on page 40

New USB3.0 Industrial and GPU Accelerated Smart Cameras

Ximea's Industrial Cameras

Big Performance in Small Packages. Ximea introduces USB3.0 mini- and board-level industrial cameras for OEMs and integrators in the general manufacturing, flat panel, intelligent transportation, systems, solar, electronics, packaging, and printing industries.

Ximea's Line of Compact Scientific Cameras

Ximea's new line of miniature, scientific grade cameras offers resolutions of up to 16 megapixels and Peltier cooling for low noise operation for applications in medical imaging and microscopy, life sciences, including pathology, histology, and fluorescence microscopy. For applications in micro computed tomography and other non-destructive inspection applications Ximea offers high performance, ultimate image quality 11 and 16 megapixel X-ray cameras.

Ximea's New Curerra-G GPU Accelerated Smart Cameras

offer the highest level of image processing performance, the broadest imaging OS software compatibility, including Windows and

Linux and best instant support in the industrial vision and imaging market.

Ximea GmbH
Hafenplatz 4
48155 Münster
Germany
Tel.: +49 251 590 686 0
Fax: +49 251 590 686 99
info@ximea.com
www.ximea.com

See our profile on page 40

FÜR ALLE, DIE NACH DEM RICHTIGEN PARTNER SUCHEN

VISION Integration Area

Die Plattform für Systemintegratoren und Lösungsanbieter für industrielle Bildverarbeitung. Schlüsselfertige Systeme, applikationsspezifische Lösungen und optimierte Verfahren für die unterschiedlichen Branchen: von der Automobilindustrie bis zur Photovoltaik, von der Nahrungsmittelindustrie bis zur Medizintechnik.

Folgen Sie auf der VISION dem gelben Teppich in Halle 4 und entdecken Sie die Vielfalt der Bildverarbeitungs-lösungen: Qualitätskontrolle, Identifikation, Inspektion, Messtechnik und Roboterführung. 2D und 3D.

Halle 4, Stand A74

VISION

2011

24. Internationale Fach-messe für Bildverarbeitung

Messe Stuttgart
8. – 10. November 2011

www.inspect-online.com

Pioneers wanted!

Explore the last uncharted territories of the nano world.

Forge your way to places where no one has ever been before. With the Olympus dual pinhole technology of the new LEXT OLS4000, you are now able to conquer near vertical gradients (up to 85°). Discover completely new dimensions in the field of optical metrology. From highly reflective to highly absorbent, the LEXT shows you unexpected features in a whole new light. Whatever you are aiming for, with its outstanding resolution and absolute measuring precision, the new LEXT paves the way towards the uncharted territories of the nano world. When are you heading off on your first expedition?

For further information: microscopy@olympus-europa.com, www.microscopy.olympus.eu

OLYMPUS

Your Vision, Our Future