TKH VISION

> ## UNITED POWER FOR
> ## YOUR VISION SOLUTION.

Introducing the global technology leader in state-of-the-art
integrated 2D/3D machine vision solutions

Contents

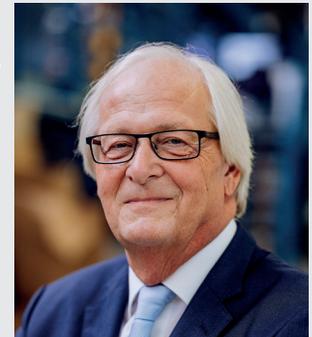## A Global Partnership of Machine Vision Solution Providers.

TKH Vision is a global group of machine vision technology leaders providing complementing 2D and 3D vision components and solutions. With a distinct customer-centric approach, the machine vision experts prioritize tailoring solutions to various customer needs, fostering enduring relationships built on trust and excellence.

About
TKH Vision

Alexander van der Lof
CEO of TKH Group

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Our cutting edge machine vision systems sit at the heart of modern automation. Working in close partnership with clients across numerous industries, we deliver the capabilities that result in faster and more effective measurement, inspection, and process automation and optimization: eliminating errors, maximizing efficiency, and optimizing throughput. Together with our integrated software and artificial intelligence generated capabilities, our systems allow for fully automated hands-off, eyes-off production processes. We serve numerous industrial sectors as varied as consumer electronics, factory automation, wood, battery, logistics, and life sciences.

Mark Radford
Vice President of TKH Vision

"

The companies of TKH Vision are all aligned around a common mission to build long-term partnerships with our customers. By being a reliable partner that provides the best technology with excellent support, the existence of TKH Vision improves our ability to deliver this experience to our customers, while operating the companies individually allows for entrepreneurship and agility in responding to customer needs.

Robert Franz
CEO of TKH 2D Vision

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With a focus on innovation, our comprehensive product portfolio is carefully crafted to address the unique needs of our customers, enabling them to achieve their goals with precision and accuracy. As a pioneer in the machine vision market, TKH Vision boasts an unparalleled breadth of offerings, encompassing 2D and 3D vision technology, all spectral technologies (UV, NIR, IR, SWIR), as well as complementary vision components, software, AI, accessories, and exceptional support.

Area Scan Leader in SWIR, Industrial and Embedded

By focusing on what counts for each customer, Allied Vision finds solutions for every application, earning its position as one of the leading camera manufacturers worldwide in the machine vision market.

Originally built with the needs of factory automation in mind, their camera portfolio extends to a wide variety of sectors including food and beverage, pharma, medical imaging, logistics and robotics. To address the wide variety of application challenges, they design their cameras in a modular way. The result is a diversity of interfaces, sensors, spectral sensitivities, lens mounts, filters, housing variants, and many more options tailored to customers' applications.

Applications:

> Factory automation
> Automotive
> Robotics and drones
> Semiconductors
> Photovoltaic and battery inspection
> Electronics
> Sort and pack
> Laser beam profiling
> Medical imaging equipment
> Lab automation and microscopy
> Intelligent traffic systems
> Sport and motion analytics
> Logistics and warehouse automation

www.alliedvision.com

Line Scan and OEM Customizing Solution Expert

Chromasens main focus is the development and delivery of a comprehensive line scan portfolio that includes 2D and 3D technology, multi-spectral technology, and high-intensity LED light sources.

The fully configurable and scalable line scan vision platform allows unlimited use of our standard portfolio. Chromasens also specializes in customized vision OEM solutions without limitation – both area-scan and line-scan. As application experts, they don't just supply products, they understand their customers' applications and develop high-performance, cost-optimized image processing solutions that are perfectly matched to the individual application.

Applications:

> Print & packaging inspection
> Electronics & semiconductor wafer inspection
> Solar cells inspection
> Sorting
> Food & beverage inspection
> Medical engineering
> Archiving & digitalization
> Automotive
> Security technology
> Road inspection
> Train and rail inspection

www.chromasens.de

High Quality Cameras for Machine Vision

SVS-Vistek is a manufacturer of high-end cameras for machine vision applications in the areas of high-resolution and also high-speed. The cameras are used where a closer look is needed and first-class images are required.

SVS-Vistek's industrial cameras are used, for example, to inspect the quality of industrially manufactured goods, help to regulate traffic and make it safer, or offer the film industry opportunities for exciting scenes from unusual angles. Cameras from SVS-Vistek offer more than just state-of-the-art technology: Efficient, lean, and customer oriented processes in production, administration, and service ensure on-time delivery, the highest quality standards and easy integration of their cameras. To ensure this, they work closely with renowned and reliable suppliers and are in constant dialog with their business partners.

www.svs-vistek.com

Applications:

- Aerial imaging
- Agriculture
- Electronics & semiconductor
- Wafer inspection
- Food & beverage inspection
- Print & packaging inspection
- Medical engineering
- Speed enforcement
- Solar cells inspection
- Sorting

MIKROTRON

Precision, Performance, and Reliability

With the Mikrotron brand, SVS-Vistek specializes in the development, production, distribution, and support of small, particularly robust digital high-speed cameras.

Today, the Mikrotron brand is internationally renowned in the industrial image processing market for its small and particularly robust high-speed cameras. Their cameras with outstanding technical performance features, for example in terms of image resolution and light sensitivity, are used in industrial and scientific applications as well as in the fields of sport, advertising and nature filming.

www.mikrotron.de

Applications:

> Meltpool monitoring
> Laser triangulation 3D
> Predictive maintenance
> PCB inspection
> AOI
> Surface inspection
> Train and rail inspection
> Medical laser positioning
> Surveillance
> Motion analysis
> Metrology
> Process analysing
> Troubleshooting

3D LMI TECHNOLOGIES

The Global Leader in 3D Scanning and Inspection

LMI Technologies' primary focus is the advancement of 3D smart sensor technology for fast and accurate measurement. LMI offers a wide range of smart 3D sensor product families designed to help factories achieve 100% inline inspection, reduce waste through material optimization, and improve production efficiency by simplifying factory automation processes.

The award-winning FactorySmart® laser, snapshot, and line confocal sensors are deployed worldwide to improve the quality and efficiency of production by providing fast, accurate, reliable inspection solutions that leverage smart 3D technologies. Unlike contact-based measurement or 2D vision, the non-contact solutions add 3D shape information that is critical to achieving 100% quality control. LMI also offers full-service AI-based solutions for deep-learning driven industrial inspection.

www.lmi3D.com

Applications:

- Automotive inspection
- Consumer electronics inspection
- EV battery inspection
- Food processing inspection
- Packaging & logistics inspection
- Road & rail inspection
- Rubber & tire inspection
- Semiconductor inspection
- Wood inspection

nerian

High-speed stereo vision solutions for real-time 3D depth measurements

Nerian specializes in the development of innovative 3D depth sensor systems.

The technology behind their devices is stereo vision, which like the human depth perception works by comparing two images. Nerian's innovative approach of using an FPGA for image processing makes our cameras some of the fastest 3D sensors on the market. The capability of operating in presence of bright daylight and over long measurement distances allows our cameras to be used even in challenging outdoor applications.

www.nerian.com

Applications:

- Factory automation
- Mobile robotics
- Bin picking
- Autonomous vehicles
- Agriculture automation
- Construction automation
- Logistics

Customized and Embedded Vision Solutions based on AI

At NET, customer requirements are at the heart of their camera development. They actively listen, understand, and deliver camera platforms that provide real value to each specific application.

Customers around the world appreciate the ability to translate customized application requirements into product designs that enable seamless integration of their own IP into the camera. NET's AI-based camera solutions offer additional benefits, especially in industrial and medical environments, where the increased value is consistently confirmed.

Applications:

> Factory automation
> Industrial inspection
> Robotics
> Print & packaging
> Electronics
> Semiconductor
> Food & beverage
> Recycling
> Transport & logistics
> Pharmaceutical
> Endoscopy
> Dental
> Ophthalmology
> Microscopy

www.net-gmbh.com

euresys

Empowering Computer Vision

Open eVision
Image Analysis Software Tools

IP Cores

Euresys is a leading and innovative high-tech company, designer, and provider of image and video acquisition components, frame grabbers, image analysis software and FPGA IP Cores. Euresys is active in computer vision, machine vision, factory automation and medical imaging.

They offer a wide range of high-performance frame grabbers for Camera Link, CoaXPress or CoaXPress-over-Fiber image acquisition. Euresys' image analysis software covers 2D and 3D inspection, defect detection using deep learning, sub-pixel measurement, pattern matching, color analysis, OCR and code reading.

They also offer FPGA-based imaging and video IP Cores and products for GigE Vision, CoaXPress, USB3 Vision, MIPI and GenICam standards.

www.euresys.com

Applications:

- Electronics manufacturing
- General Manufacturing
- Printing
- Food inspection
- Microscopy
- Life & Medical
- Video acquisition & recording
- Logistics and warehouse automation
- Sports and motion analytics

Innovative and forward-thinking 2D and 3D

Vision Components and Solutions

	Allied Vision	chromasens	euresys	SVS-Vistek	MIKROTRON	LMI TECHNOLOGIES	nerian	net
Area Scan	✓			✓	✓	✓[1]	✓	✓
Line Scan		✓				✓[1]		✓
3D		✓				✓	✓	
Embedded	✓				✓	✓	✓	✓
High Speed		✓			✓	✓[1]	✓	
SWIR	✓	✓		✓				✓
UV	✓	✓		✓				
Polarized	✓	✓		✓				✓
Frame Grabber			✓					
IP Core			✓					

[1] Based on 3D line scan and area scan cameras

	Allied Vision	chromasens	SVS-Vistek	MIKROTRON	LMI TECHNOLOGIES	nerian	net
Camera Link	✓	✓	✓	✓			
CoaXPress	✓	✓	✓	✓			
GigE[2]Vision	✓	✓	✓	✓			✓
USB	✓		✓			✓	✓
CSI-2	✓						
GigE	✓	✓			✓[3]	✓	

[2] 1GigE, 5GigE, 10GigE, 25GigE

[3] Profinet Support, ModBus, ASCII and Ethernet IP protocols

TKH Vision
Solutions

Your Vision, our Expertise.

Creating Machine Vision Solutions with You

With over **30 years of experience** and strategic partnerships with industry leaders, TKH Vision Solutions offers **extensive vision technology, financial stability,** and **scalability** for any project size. Our vertical integration and agile collaboration with customers and internal R&D ensure that we deliver effective and innovative solutions.

As a **lifecycle management partner**, we provide not only solution development but also **volume production, support, repair, and redesign** – ensuring the delivery of solutions designed to seamlessly integrate into your new or existing production systems and service structures:
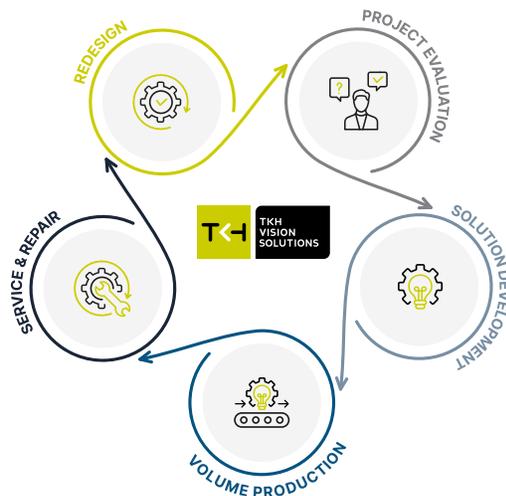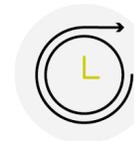

Your Benefits

Save Resources and reduce Risks
Reduce your development, production, and supply chain risks by utilizing the full extent of TKH Vision's expertise and resources.

Competitive Advantage
Tailoring customized machine vision solutions to your specific needs, providing you with a competitive edge in the market.
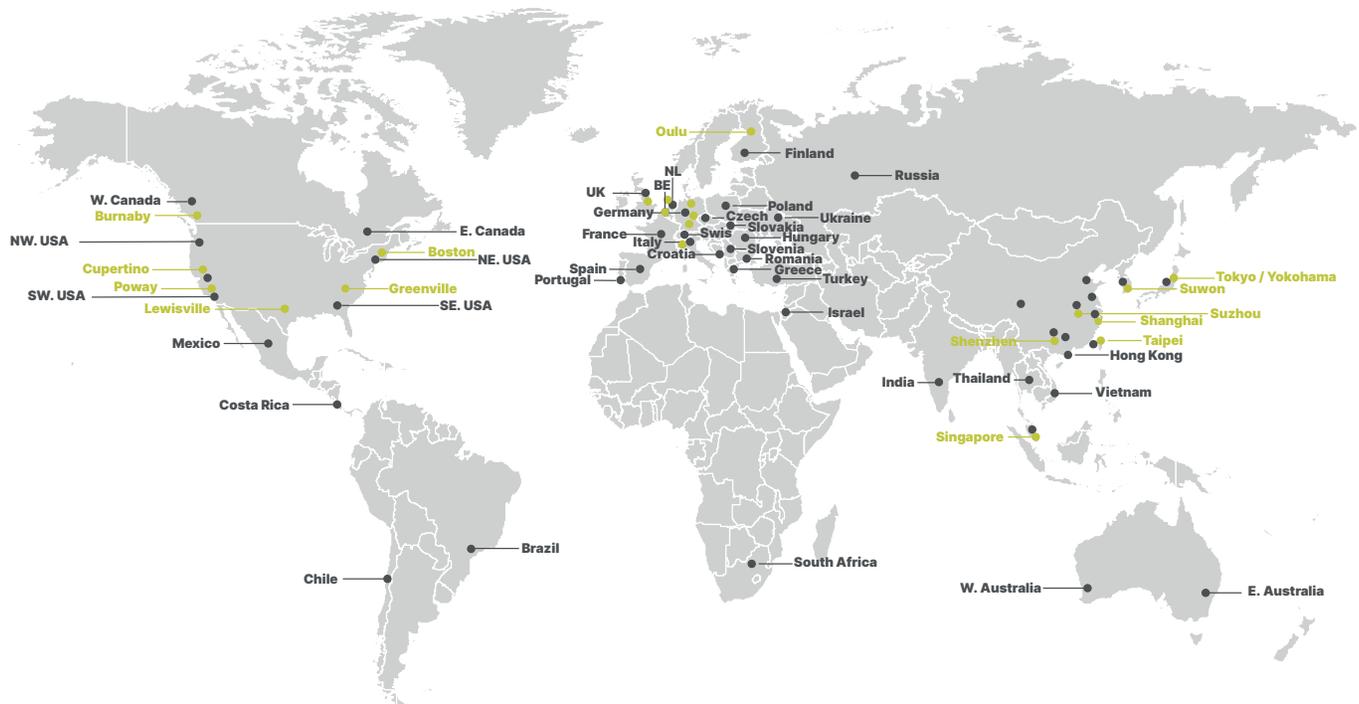
Scalability and Future-Proofing
Machine vision solutions are developed to grow with the demands of your market and ensure long-term availability.

Empower your business with TKH Vision Solutions:
tkhvision.com/solutions

Machine Vision
with Global Reach

TKH Vision companies • Sales Partners

Oulu
Finland
Russia
NL
BE
UK
Germany
Poland
Czech
Ukraine
France
Slovakia
Swis
Hungary
Italy
Slovenia
Croatia
Romania
Spain
Greece
Portugal
Turkey
Israel

W. Canada
Burnaby
NW. USA
E. Canada
Cupertino
Boston
NE. USA
Poway
Greenville
SW. USA
Lewisville
SE. USA
Mexico
Costa Rica

Tokyo / Yokohama
Suwon
Shanghai
Suzhou
Shenzhen
Taipei
Hong Kong
India
Thailand
Vietnam
Singapore

Brazil
Chile
South Africa
W. Australia
E. Australia

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www.lmi3D.com

NET GmbH
Finning, Germany
www.net-gmbh.com

SVS-Vistek GmbH
Gilching, Germany
www.svs-vistek.com