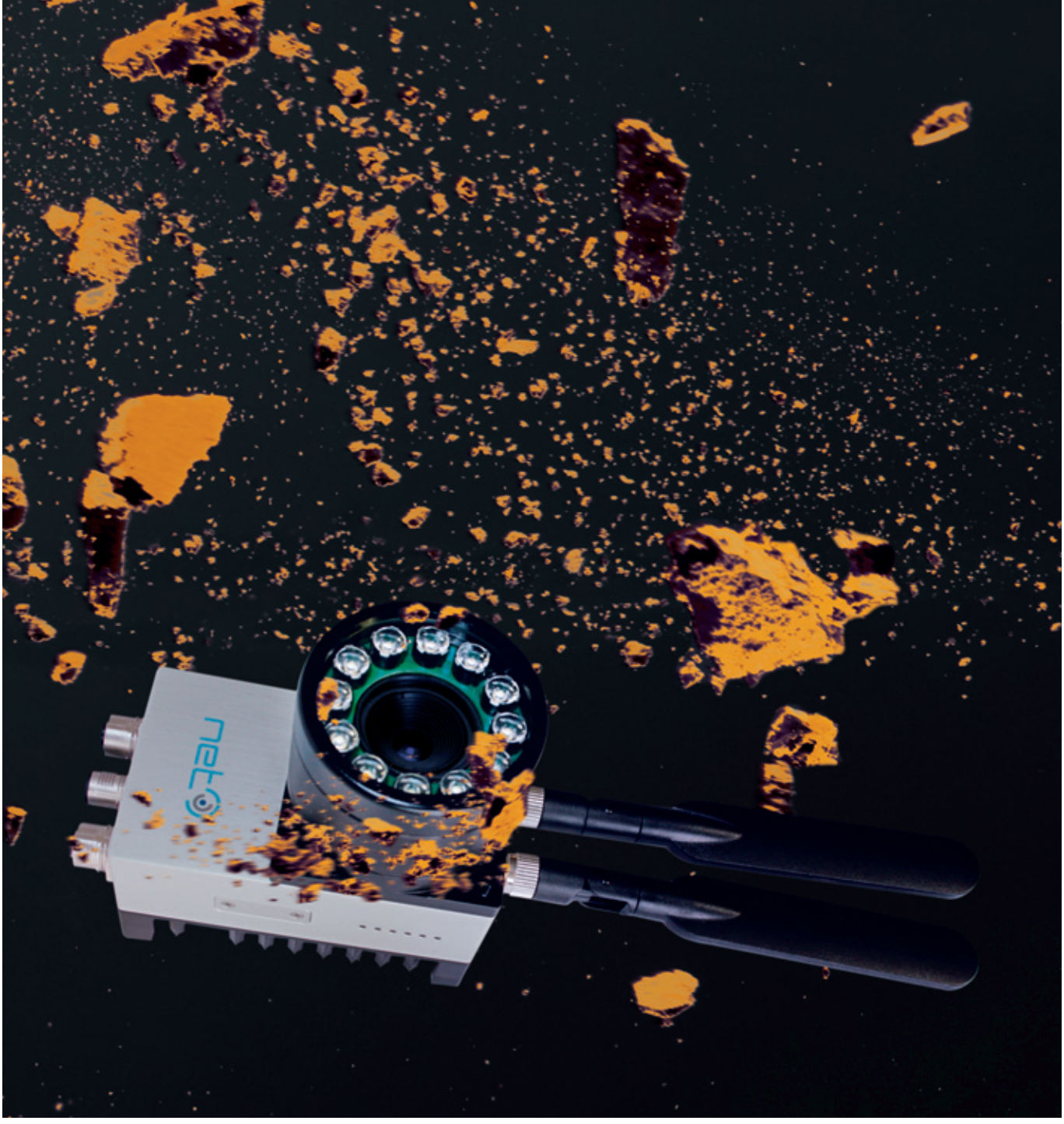


NEW ELECTRONIC TECHNOLOGY

Decentralized image processing.

SMART VISION SYSTEM – EMBEDDED COMPUTER

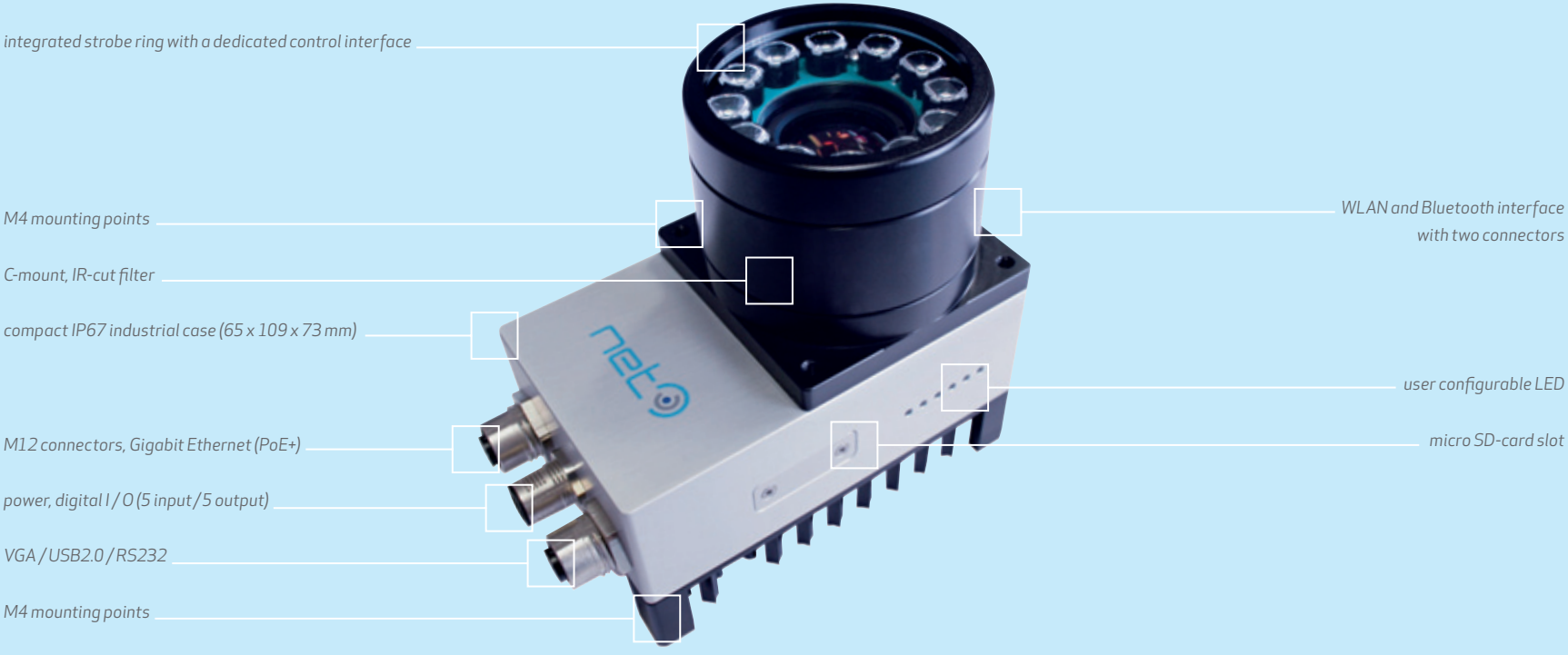
CORSIGHT

CORSIGHT – DECENTRALIZED IMAGE PROCESSING

CORSIGHT - Create your vision solution.

CORSIGHT - INTEGRATED VISION SOLUTION

NET's CORSIGHT is a smart vision system providing maximum flexibility in industrial applications for decentralized image processing. The freely configurable vision solution enhances most demanding customer applications in rough and difficult to access environments like security, machine vision, traffic control, logistics and others. For this, CORSIGHT is offered with a compact IP67 housing. The vision system comprises a PC with an efficient Intel CPU offering full compatibility to operating systems (Windows or Linux) as well as to any common image processing software package. Customers benefit from CORSIGHT's efficient architecture and onboard data processing. Optionally available specific algorithms for real-time image processing through an FPGA, matching standard or custom lenses and a software-controlled integrated strobe ring allow CORSIGHT to meet any demand. Multiple industrial connectors and interfaces as well as the ability of wireless connection facilitate optimal integration into custom systems and reflect its excellent networking capabilities.



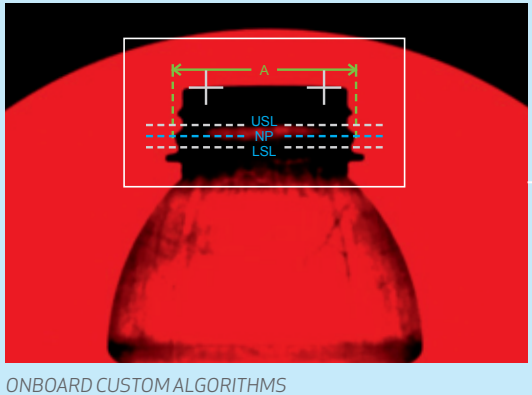
SERVING CUSTOMER APPLICATIONS

WIRELESS/REMOTE NETWORKING

WLAN/BLUETOOTH/GSM
GIGABIT ETHERNET (POE+)

RECOGNIZE/COUNT

REAL-TIME IMAGE PROCESSING



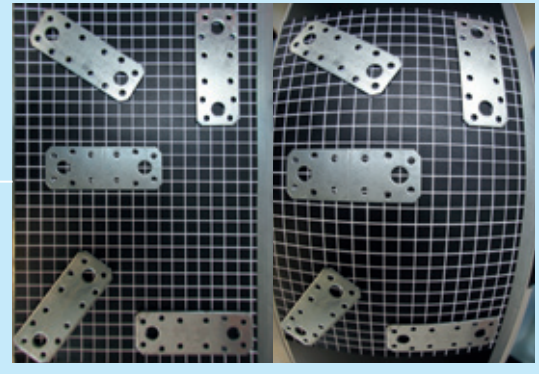
ONBOARD CUSTOM ALGORITHMS

MEASURE/SCAN

DECENTRALIZED IMAGE PROCESSING

MATCH/LOCATE

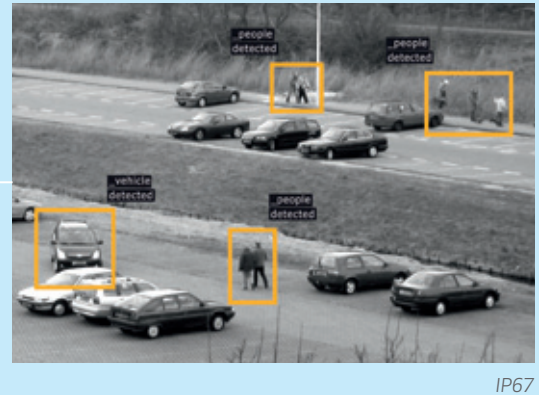
INTEGRATION/COMPATIBILITY



WINDOWS EMBEDDED STANDARD 2009, LINUX
STANDARD IMAGE PROCESSING SOFTWARE PACKAGES

FIND/RECORD

COMPACT INDUSTRIAL CASE



IP67
M12 CONNECTOR

Flexible - Efficient - Robust.

KEY FEATURES AT A GLANCE

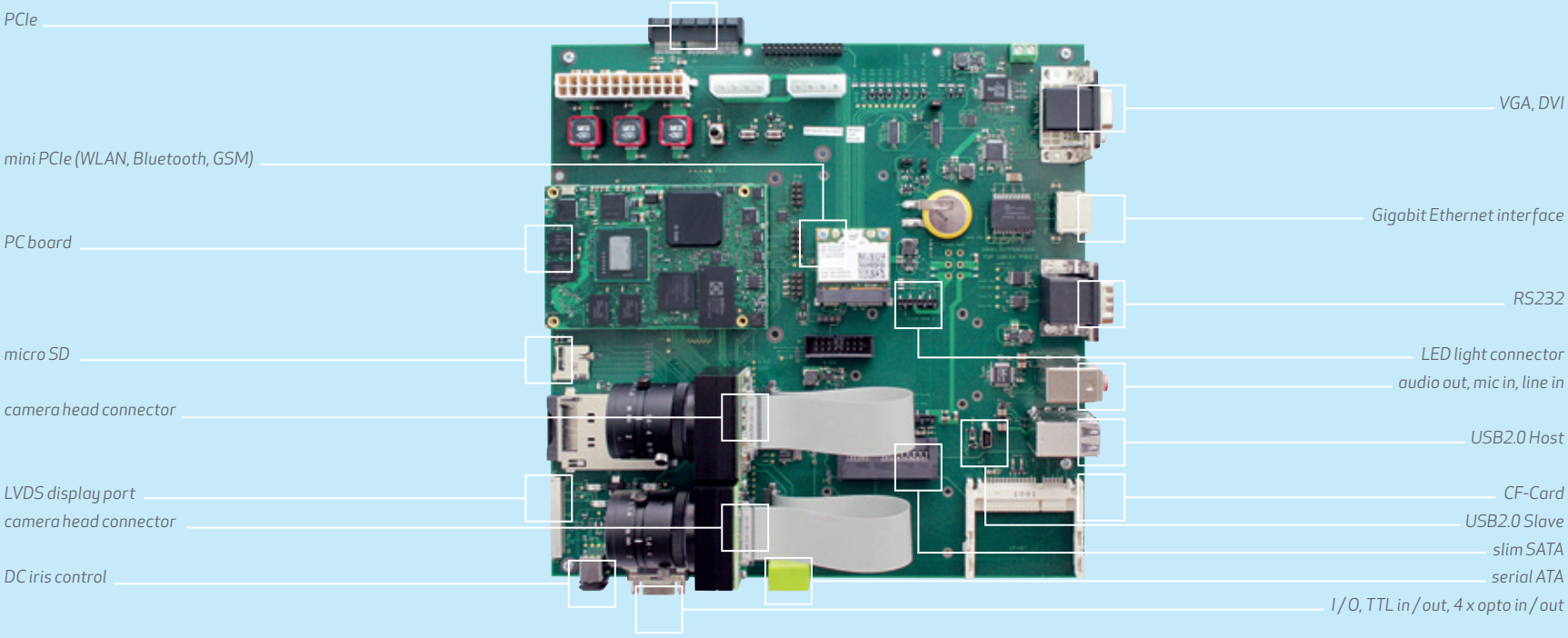
PRODUCT OVERVIEW

With a spectrum of 28 CCD and CMOS color/ monochrome image sensors ranging from VGA up to 5 megapixel and high speedframe rates there are virtually no limits on customer's choice. CORSIGHT is a real PC as it comes with an Intel Atom E680 1.6 GHz embedded line processor for lowest power consumption and sustainability.

The PC camera is equipped with up to 2 GB DDR2, up to 32 GB solid state drive and a micro SD slot. Long distance communication to enterprise networks is achieved via Gigabit Ethernet (PoE+) interface, USB2.0, VGA, and RS232 to external peripherals. By means of WLAN or Bluetooth connectivity extensive cabling can be left out.

CORSIGHT features multiple programmable I/Os, and an optionally software-controlled integrated strobe ring. Flexible power supply (12-24V) opens up the possibility to serve existing applications with different power requirements.

CORSIGHT offering full integration into custom systems - illustrated by means of a comprehensively featured evaluation board.



CORSIGHT – TECHNICAL DATA

CAMERA

COLOR	CO2030C	CO2031C	CO2035C	CO1041C	CO2055C	CO2081C	CO1121C	CO4136C	CO4206C	CO2132C	CO2145C	CO2147C	CO2206C	CO2202C	CO1503C
MONOCHROME	CO2030M	CO2031M	CO2035M	CO1041M	CO2055M	CO2081M	CO1121M	CO4136M	CO4206M	-	CO2145M	CO2147M	CO2206M	-	CO1503M
Resolution (H x V) [px]	659 x 494			752 x 480	782 x 582	1024 x 768	1280 x 960	1280 x 1024	1600 x 1200	1300 x 968	1360 x 1024		1624 x 1236	1640 x 1232	2592 x 1944
Sensor	CCD			CMOS	CCD		CMOS		CMOS	CCD					CMOS
Image sensor	ICX098	ICX424	ICX414	MT9V034	ICX415	ICX204	MT9M031	EV76C560	EV76C570	ICX442AQ	ICX267	ICX285	ICX274	ICX454JQF-J	MT9P031
Sensor size	1/4“	1/3“	1/2“	1/3“	1/2“	1/3“	1/3“	1/1.8“	1/1.8“	1/2.7“	1/2“	2/3“	1/1.8“	1/2.7“	1/2.5“
Pixel size [µm]	5.6 × 5.6	7.4 × 7.4	9.9 × 9.9	6.0 × 6.0	8.3 × 8.3	4.7 × 4.7	3.8 × 3.8	5.3 × 5.3	4.5 x 4.5	4.1 x 4.1	4.7 × 4.7	6.5 × 6.5	4.4 × 4.4	3.3 x 3.3	2.2 × 2.2
Frame rate [fps]	64	62	62	64	63	32	45	60 *	40 *	8	15	20	14	9	color: 10 mono: 14
Shutter	global							global; rolling; global reset		global					rolling; global reset
Shutter speed	5 µs – 60.000 ms			10 µs – 1.000 ms	5 µs – 60.000 ms		47 µs – 55.000 ms	16 µs – 1.000 ms	31 µs – 1.030 ms	5 µs – 60.000 ms					39 µs – 55.000 ms
Dynamic range [dB]	68.6	63	72.7	55 (HDR mode: 110)	68.8	72,6	61.3	51.9	62	tbd	72.5	76.3	68.7	tbd	70.1
Binning	-	-	-	- / 2/4 x 2/4	-	-	2/4 x 2/4	2/4/8/16 x 2/4/8/16	2 x 2	-	-	-	-	-	2/4 x 2/4
Aspect ratio	4:3			3:2	4:3			5:4	4:3	4:3	5:4		4:3		
Scanning system	progressive														
Lens	C-Mount														
Strobe ring	integrated strobe ring with a dedicated control interface (optional)														
Industrial case	IP67														
Dimension (WxHxD) [mm]	65 × 109 × 73 (without connectors and optics)														
Weight [g]	516														
Operating temperature	0 - 40 °C														
Operating realtive humidity [%]	20 - 95, non-condensing														
Power consumption [W]	12 - 24 VDC ±10%, 12 W (typical) or PoE+														

* for color: maximum sensor capture rate

INTERFACES

Networking	Gigabit Ethernet (1x, optional 2x), WLAN, Bluetooth, GSM
Digital input / output	4x optocoupler, 1x TTL
Serial	RS232
Video	VGA
SD-Card	micro SD card slot

PC TECHNOLOGY

CPU	Intel Atom E680 1.6 GHz
RAM	1GB DDR2 (optional: 2GB)
Mass storage	8 - 32 GB solid state drive
FPGA	Spartan 6
Supported operating system	Windows Embedded Standard 2009, Linux
Supported image processing libraries system	Adaptive Vision Studio, Halcon, ActivVisionTools, Common Vision Blox, MATLAB, OpenCV

No limits to functionality.

APPLICATION & SOFTWARE

CORSIGHT - 100% custom solution.

APPLICATION OVERVIEW

CORSIGHT`s features deliver great benefit to all kind of applications being remote, in rough environments, or resource-intensive in regard of computing power, data transfer or system architecture. This application range profits from a smart vision solution being designed for optimal decentralized image processing. Special demand for CORSIGHT occurs amongst others in traffic control, security/surveillance, robotics/automation, and distribution systems.

CAMERA CUSTOMIZATION

Particular applications require specific features and modified funtionality. NET offers CORSIGHT as smart vision solution with all features that really improve results as to customers requests. Real-time onboard image processing is achieved by means of an efficient FPGA and optionally available NET or customer algorithms.

SOFTWARE DEVELOPMENT KIT (SDK) & VIEWER SOFTWARE

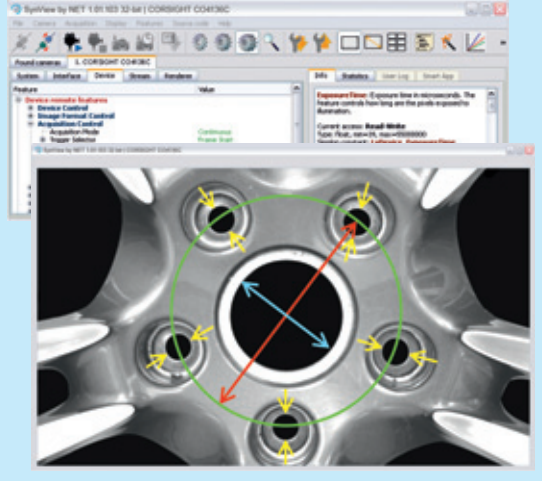
CORSIGHT features full compliancy to GenICam and GenTL standards. The included SDK enables an easy integration into existing customer systems as it runs under Windows Embedded Standard 2009, and Linux. It supports the most common programming languages C, C++ and the framework .NET class library. The powerful SDK covers a wide range of functionalities for the control of camera hardware, i.e. the image capture (I/O triggering) and memory management. The viewer facilitates the setting and evaluation of image data via various functionalities, like preview, histogramm analysis, line profiles, storage, and even the generation of code examples.

3RD PARTY SOFTWARE

Due to GenTL standard compatibility CORSIGHT is easily accessible by means of 3rd party software.

Drivers are available for most common image processing libraries, namely Adaptive Vision Studio, Halcon, ActivVisionTools, Common Vision Blox, MATLAB, and OpenCV.

SynView – quick image setting and evaluation



smart assembly: localisation > pattern recognition > data transfer to robot

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NET - We simplify complicated technologies by making them easier to use.

Our strengths are the close understanding of the industrial and medical image processing field and the in-depth application knowledge which we have acquired over many years. Camera technology, CCD and CMOS technology, FPGA programming, hardware and software design are our core skills which we can tap within the company. Our innovative portfolio is supplemented by a wide range of standard and customized lenses and light systems.