



•ximea

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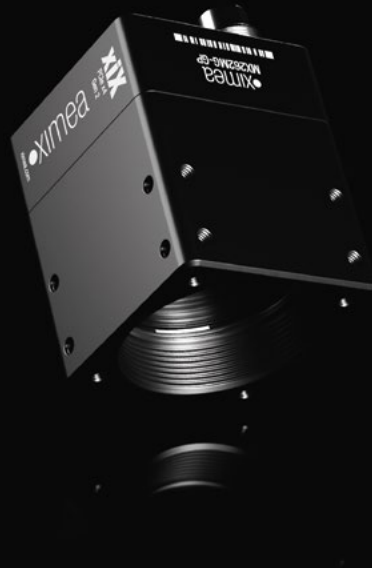
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## Hi, and welcome to our story

XIMEA: one of many camera manufacturers, yet unique through its mindset and its creations.

As a company full of charming nerds (engineers), thirsty for knowledge and technical challenges, we develop cameras and imaging systems in our own agile and fearless, and sometimes unconventional way.

Exactly this mode of operation allowed us not only to persist for decades but also to thrive and implement an ever increasing number of successful projects.

Explore the bits and pieces that make XIMEA.



**“Imagination is everything.”**

– Albert Einstein

## Imaging beyond the standard

Technology-driven and always seeking innovative solutions, we focus on extremely fast interfaces and the newest sensor technologies, packaged into super small and robust camera housings. In all our designs we strive to propel our core properties:

maximum sensor performance

ease and flexibility of integration

super low latencies

power efficiency

We divide our portfolio into segments, such as industrial, scientific, embedded, multi-camera, and custom engineering. While these segments create broad classifications, the applications for our camera systems are endless. Ultimately, it is your requirements matched with the features of the camera that determine the solution.




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

### Research & Development office in Marianka, Slovakia

Mutual exchange and interactive collaboration is the essential philosophy of XIMEA. Together with our clients, our experienced and talented technical engineering team (aforementioned charming nerds) face complex demands and solve individual challenges, not only with standard products but also with anything from small modifications to full custom designs.





Industrial cameras

## Our portfolio


High performance imaging systems

XIMEA develops and distributes industrial and scientific cameras and imaging systems. Our high-quality cameras utilize CMOS and sCMOS sensors, combined with high-bandwidth USB3, Thunderbolt, and PCIe interfaces. A 50/50 mix of OEM and series production guarantees innovative and technology-driven developments as well as reliable supply and support.


Many of our most novel products evolved from dealing with a variety of customers' requirements for special customization, adjustments, or whole new OEM projects and applications.




Scientific cameras



Custom engineering



Imaging ecosystem



```

* @brief Convert camera cvImage to
*/
cv::Mat xiAPIplusCameraDcv::ConvertCvMat(xiAPIplus_Image * input_image){
    counter++;
    next_image_ = input_image;
    // update cvImage after format has changed
    resetCvImage_();
    // allocate frame buffer copy pixel data
    cv_mat_image_data = (uchar*)input_image->GetPixels();
  
```

Software and tools

# Subminiature size and industrial grade

xiMU camera series

Engineered for the smallest possible volume and weight, made with an advanced high-density manufacturing and assembly process. The xiMU cameras are the smallest cameras in our portfolio and even in the world of industrial cameras. The sensor options include 5 Mpix, and 18 Mpix with a USB3 interface.



[ximea.com/xiMU](http://ximea.com/xiMU)



## Our superb USB3 workhorses

xiQ and xiC camera series

The xiQ and xiC camera series are highly versatile with a wide range of modern global shutter CMOS sensors. The ultra-compact form factor, barely larger than the C-mount, combined with Micro-B, Type-C, and flex ribbon connectors make these cameras the perfect fit for various applications, especially for automation and embedded vision systems.



[ximea.com/xiQ](https://ximea.com/xiQ)



[ximea.com/xiC](https://ximea.com/xiC)





## PCIe based high-speed cameras

xiB and xiB-64 camera series

The xiB family comes with a 20 Gbit/s interface and a variety of sensors including full-frame formats or sCMOS options.

The xiB-64 camera series with 64 Gbit/s is the host for the fastest image sensors out there. It features lower resolution high-speed sensors (2 Mpix at 2500 Fps) all the way to ultra high-res sensors with unmatched framerates (65 Mpix at 72 Fps).

All models can be equipped with an active lens mount and long fiber optical cables.



[ximea.com/xiB](https://ximea.com/xiB)



[ximea.com/xiB-64](https://ximea.com/xiB-64)

## PCIe cameras for embedded and multi- camera systems

xiX camera series

The compact versions of our xiX PCIe camera series, equipped with Sony Pregius™ CMOS sensors, are the ideal choice for system integrators with complex setups and high bandwidth demands.

Delivering high performance in small spaces or spread across greater distances, these cameras enable even the most challenging multi-camera systems.



[ximea.com/xiX](https://ximea.com/xiX)

# More sensors, more formats, more possibilities

xiX camera series

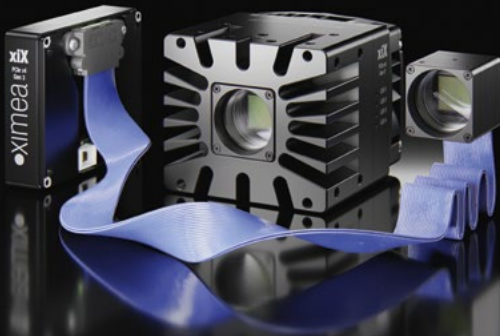
Extending the xiX camera series with a 32 Gbit/s backend allows the integration of the newest generation of Sony sensors.

This product line-up offers large format sensors (150 Mpix, 66.7 mm diagonal) as well as the fast global shutter Sony Pregius™ S sensors, reaching the full sensor specifications at the smallest form-factor.

An innovative housing concept with detachable sensor heads optimizes the integration into crowded instruments and the heat dissipation to improve the image quality.



[ximea.com/xiX](http://ximea.com/xiX)



## The astronomer's dream

### MX377 camera series

Featuring one of the largest sCMOS sensors available today, the Gpixel GSENSE6060 with 37.7 million  $10\ \mu\text{m}$  pixels and a  $60 \times 60\ \text{mm}$  optical format. The MX377 camera delivers scientific imaging capabilities with high dynamic range and low noise – at high speed. Front- and backside illuminated versions are available that reach a quantum efficiency of up to 95%. The low noise performance is attributed to the sensor design and the Peltier elements with fan or liquid cooling backends. The high resolution, fast framerates, and 16 bits depth are efficiently handled by PCIe.



[ximea.com/MX377](https://ximea.com/MX377)



# Hyperspectral imaging

## xiSpec camera series

A Fabry-Perrot interference filter array on top of a fast CMOS sensor creates the basis for a camera design that combines hyperspectral imaging with high frame rates and a compact form factor.

Simply the most compact method of retrieving hyperspectral imagery of a subject. Being small and light as well as having a low power consumption makes the cameras ideal for mobile applications such as UAVs or handheld devices.

USB3.1 or PCIe interfaces allow extreme data acquisition rates. For either option, the data can be processed on the fly or saved for later analysis.



[ximea.com/xiSpec](http://ximea.com/xiSpec)

# Extraordinary X-ray imaging

## xiRay camera series

Leveraging our expertise in camera design, we couple state-of-the-art image sensors with various types of fiber optics plates and scintillators to create high-resolution X-ray imagers for tomography applications (micro-CT).

Different fields of view are defined by the sensor and fiber optics choice, while the type of scintillator defines the usable energy levels based on the sampled materials.

With regard to these properties, the cameras will be designed and manufactured to your specific requirements. In addition, customizations cover parts like the interface, housing design, and cooling capabilities.



[ximea.com/xiRay](https://ximea.com/xiRay)





## Scientific and low light imaging

### xiJ camera series

This scientific camera line provides super sensitive, linear, and accurate data for your precise measurements. Its sCMOS sensors deliver CCD image quality with CMOS speed over a USB3 interface with Type-C connection and power delivery protocol. The compact housings come with Peltier cooling for sensor temperatures down to  $-25\text{ }^{\circ}\text{C}$ .

Photon starved applications will love the simplicity of getting a cooled camera up and running with little fuss. Imaging the very large (astronomy) to the very small (microscopy), our scientific cameras have you covered.



[ximea.com/xiJ](https://ximea.com/xiJ)

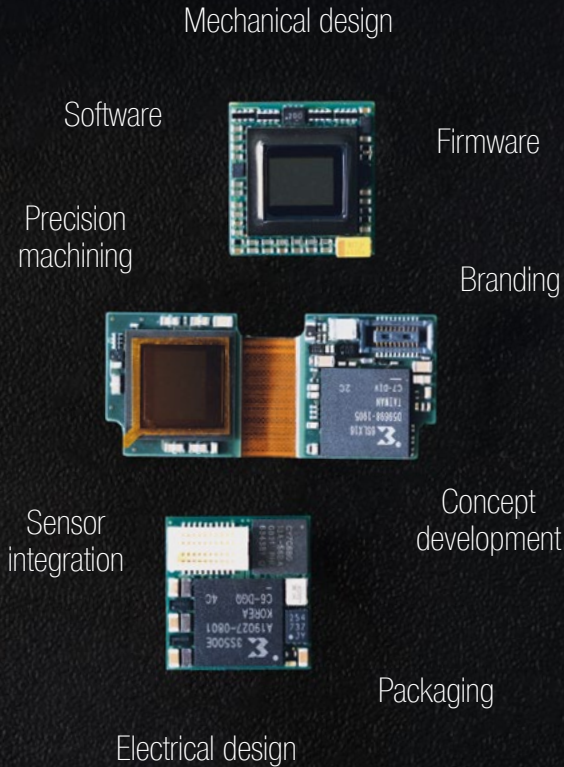
## Ecosystem beyond the camera

To sustain the high degree of camera performance, we expanded our portfolio by adding components and devices that facilitate a more holistic system assembly. All of our standard accessories are tested and verified for quality, fit, and performance. These are complemented by task-orientated, specialized components for multi-camera aggregation, signal multiplexing, synchronization, and the interconnection with various processing hosts.

For embedded applications, compact computing solutions with dedicated carrier boards complete the system configuration.







## Custom engineering

Creations and extensions beyond the product line-up

We design for performance! When it comes to custom engineering we work with you as a team in close collaboration. That is before, during, and after the job is done. If you aim to develop your project further we are always eager to assist you with a creative, rapid, and highly efficient OEM design.

"It's not about selling PCB designs, it's about offering and ensuring the technical success of the project."

– Michail Klimkovic, CEO XIMEA s.r.o.

Starting from scratch or using any existing XIMEA product as a seed, we provide services all the way up to full custom developments and manufacturing.

# Software and tools

## Support for operating systems



Windows



Linux

macOS

MacOS

## Programming interfaces



xiAPI

(C/C++, C#,  
Python)

GEN*i*CAM

GenCam GenTL

US3  
VISION

USB3Vision

## Vision libraries

XIMEA supports more than 30 of the most popular machine vision libraries, including Mathworks Matlab, MVTec HALCON, National Instruments LabVIEW, Micro-Manager, and OpenCV.



For a complete list, please visit:  
[ximea.com/libs](http://ximea.com/libs)

## Application tools

The XIMEA CamTool is a cross-platform viewer application that is capable of setting most camera parameters, controlling various features, displaying the video stream, and saving snapshots and sequences.

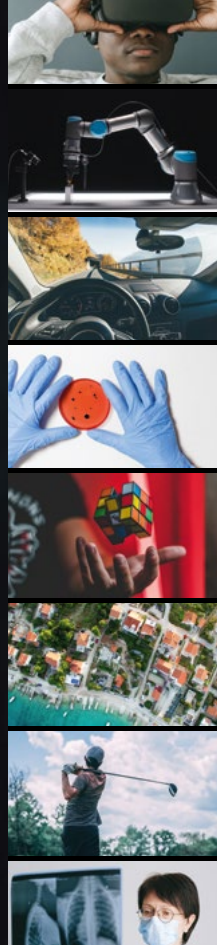
The feature set includes a histogram, line profile, LUT, averaging, flip/rotation, loop recording, shading correction, and more.

For rapid prototyping, it is extendable with a scripting engine and custom plugins.

## Applications

Our cameras are supporting a broad field of applications, and new ones are added each day. We are always on the lookout for new, exciting projects and technological challenges.

What's yours? Contact us!



Automation

Volumetric capture

Microscopy

Aerial mapping

Robotics

Motion analysis

Astronomy

Medical imaging

Scientific instruments

Surveillance

## Team spirit

Our team is not the largest but it is a lot like a family in which quantity is replaced with unity and a “unique factor”.

Diversity and respect are important to us. Young talents, with the freedom to weigh in and experiment, are paired with experienced engineers and project managers. This encourages unconventional solutions and out-of-the-box thinking without sacrificing reliability.

Owner-managed, the close ties between all team members are also evident in our compact team. As we see it, bringing together a diverse workforce of talented individuals with different ideas, strengths, interests, and cultural backgrounds to work as one is the key to our success. The number of team members is kept deliberately small to ensure versatility and to keep processes highly efficient.



■ Tech lab in Münster, Germany

## Proactive research

Rather than keeping busy by following a copycat approach or hunting for the lowest cost, we prefer providing clients with exactly what they need before they even realize that it was possible at all. Being in the lead and staying competitive with bigger players calls for proactive research and imagination.

This extended research, close contact and collaboration with technology suppliers as well as a huge load of experimental evaluation create a knowledge base, which can be tapped into by our clients to accelerate the solution identification.

*“To be honest, we spend a lot of resources to try out new things before knowing it can be developed into a product ... but eventually it always pays back.”*

– Michael Cmok, Technical Sales (Managing) Director XIMEA GmbH

Research & Development office in Marianka, Slovakia







■ Marianka office, Slovakia

**XIMEA** – Technology forge, known for high-end specialized cameras and sustainable innovations in machine vision and imaging markets for over 25 years and counting.

# Notes

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# Contact

Get in touch!

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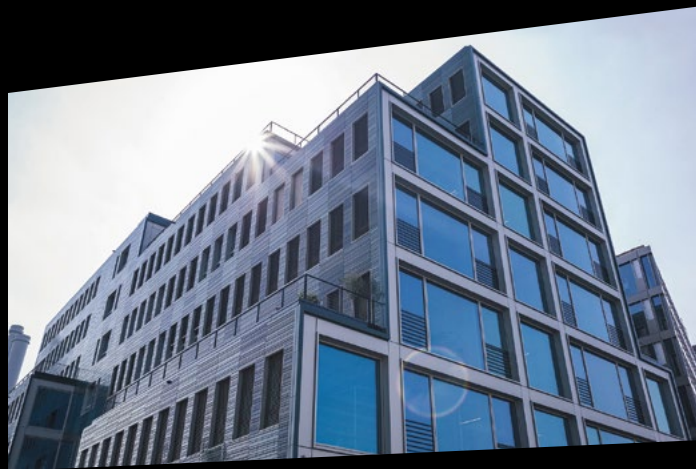
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