



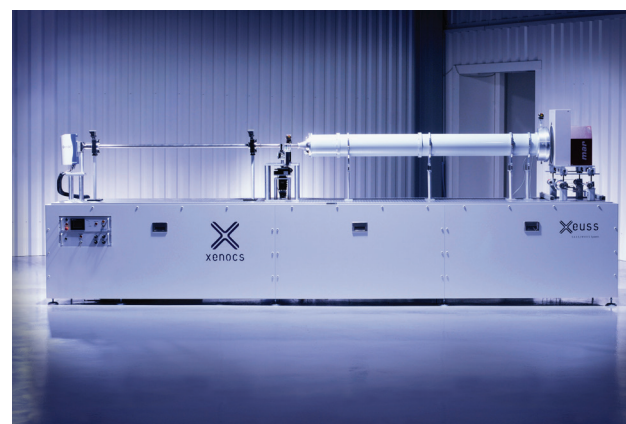
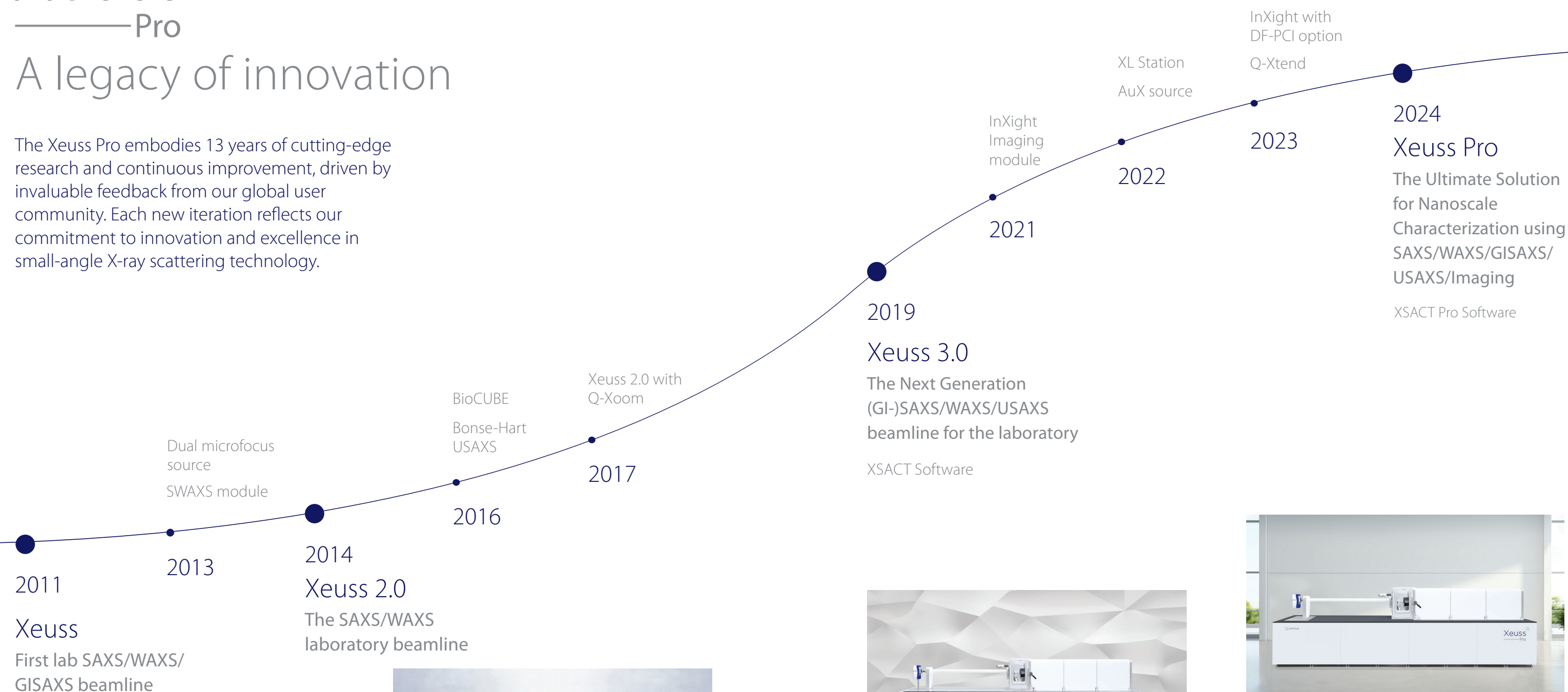
Xeuss^x ——Pro

The Ultimate Solution
for Nanoscale Characterization using
SAXS/WAXS/GISAXS/USAXS/Imaging

Xeuss^x Pro

A legacy of innovation

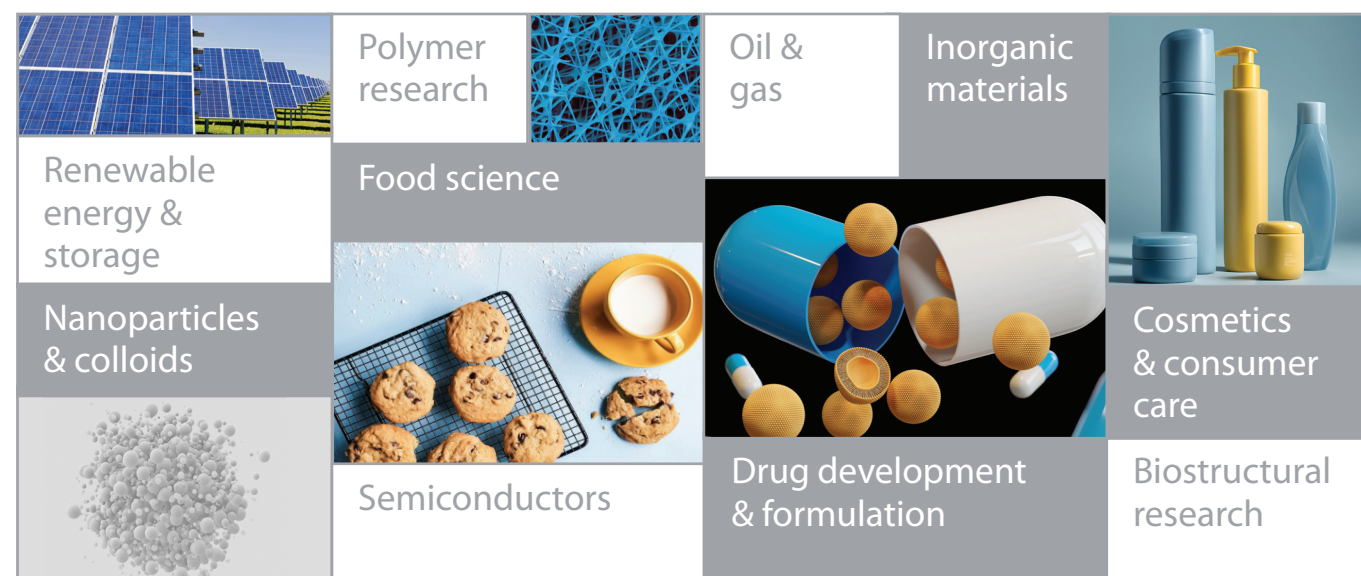
The Xeuss Pro embodies 13 years of cutting-edge research and continuous improvement, driven by invaluable feedback from our global user community. Each new iteration reflects our commitment to innovation and excellence in small-angle X-ray scattering technology.



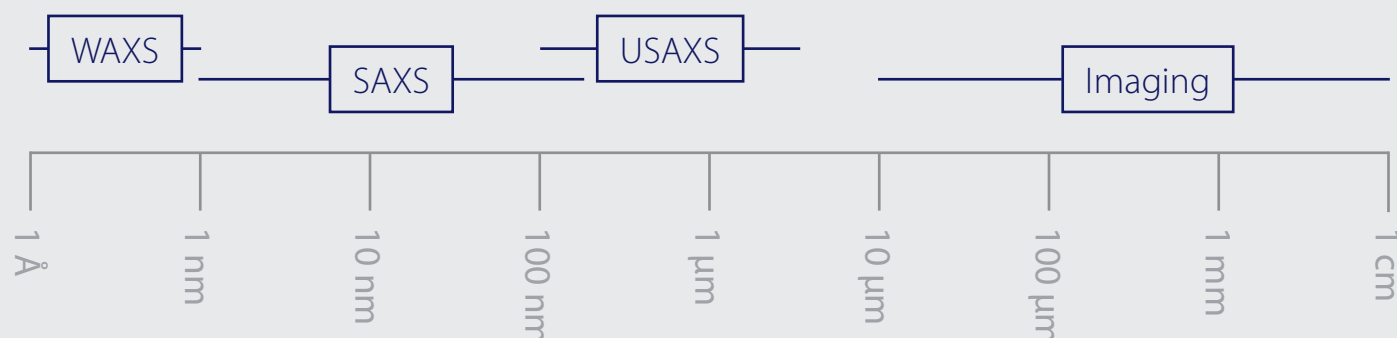
From problem to solution in one instrument

The Xeuss Pro is your all-in-one solution for diverse scientific investigations, providing remarkable versatility and precision. With its capability to answer a plethora of scientific questions across diverse applications spanning materials science, biophysics, and beyond, the Xeuss Pro stands as a cornerstone in modern scientific instrumentation. From the atomic- to the nano-scale obtain comprehensive structural information on all types of samples directly in your lab.

Multiple applications



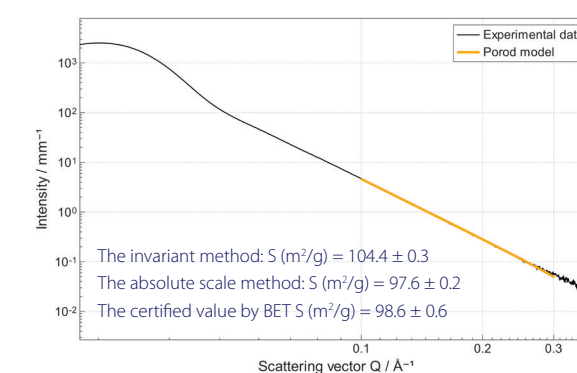
Multiple lengthscales



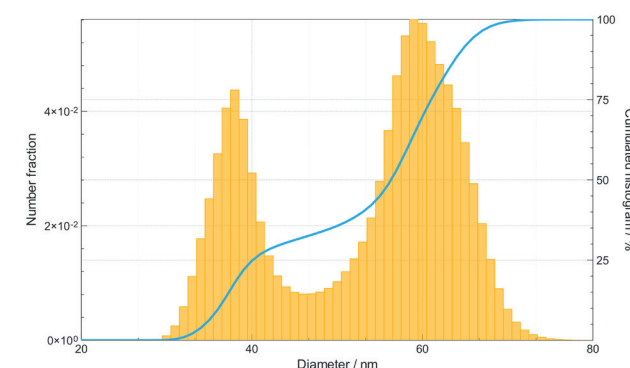
Multiple types of measurements

From revealing nanostructure morphology and analyzing crystalline phases to studying mesoscopic assemblies and exploring surface structures and interfaces, the Xeuss Pro stands as an invaluable tool for advancing scientific research and industrial applications alike.

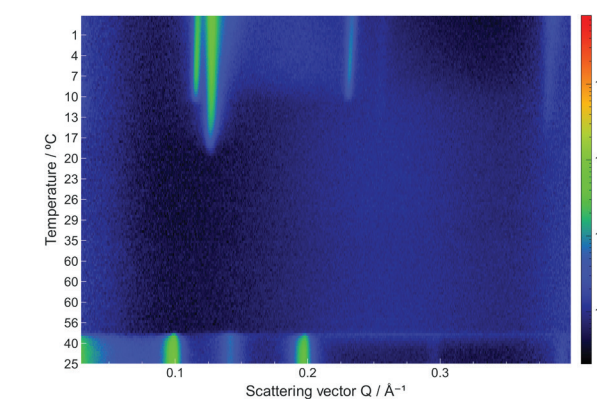
Specific surface area



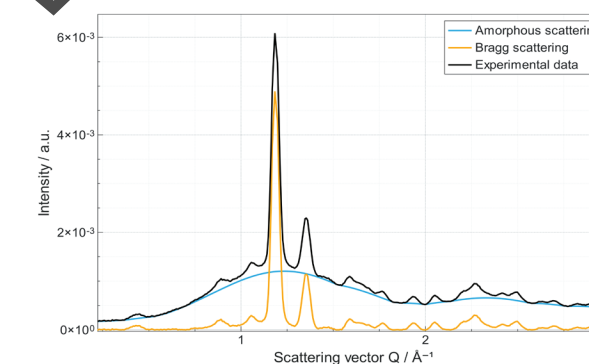
Particle size & size distribution



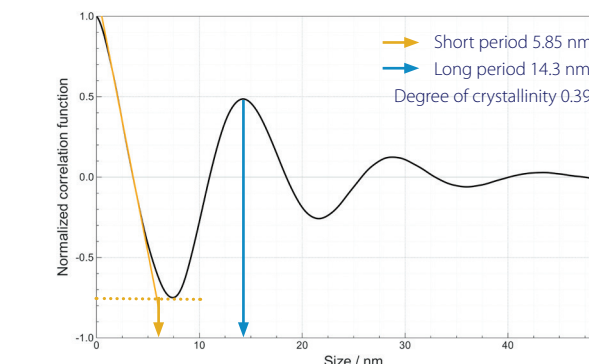
Phase transitions



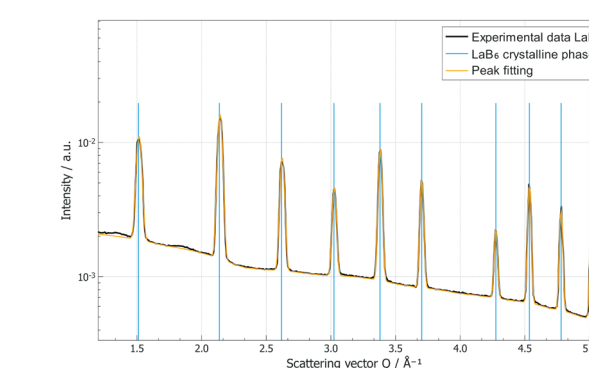
Crystalline fraction



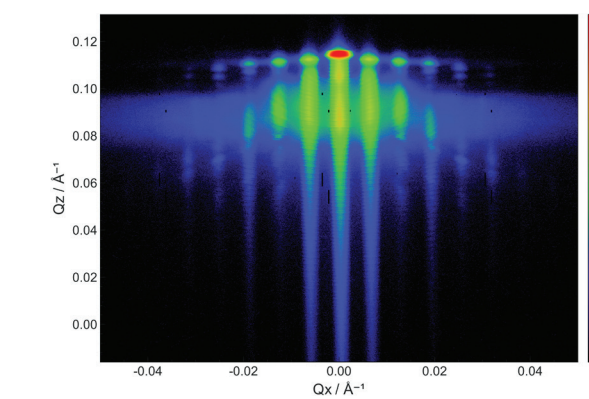
Lamellar structure



Phase identification & peak fitting



Grazing incidence





Xeuss^x
—Pro

Unlimited experimental possibilities

Experience unparalleled flexibility with our large vacuum sample chamber, designed to accommodate a wide array of sample holders and environments. The fixed sample position allows seamless integration of new equipment, while the inline camera provides optimal sample visualization throughout the entire experiment. Additionally, the XL station supports even the largest third-party instruments, ensuring your research is never constrained by space.



XL station for large sample environments

The XL station is a dedicated air-space tailored for accommodating extra-large sample environments for operando SAXS experiments. It allows for smooth integration of external experiments into the Xeuss Pro beamline using the Xenocs cart.

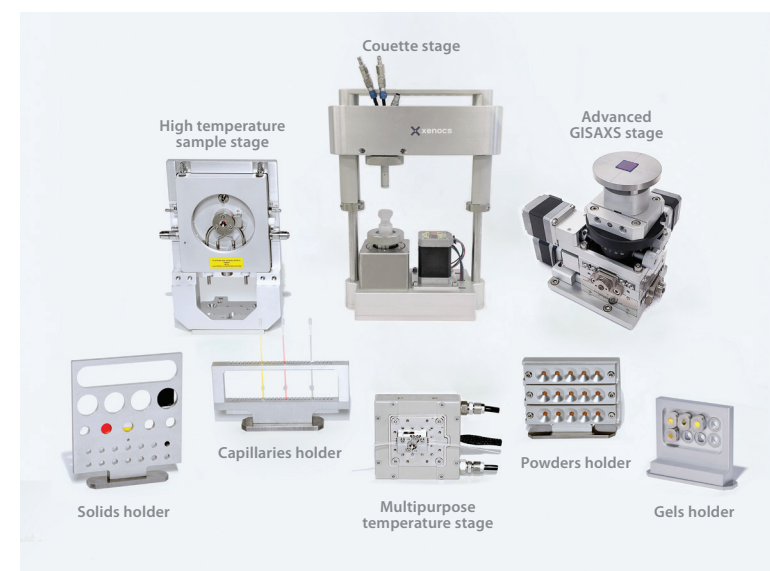


BioCUBE & Robot for BioSAXS

This independent measuring station combines an in-line pipetting robot and the BioCUBE, an innovative capillary flow cell, for automated biostructural research with seamless integration.

With tubeless handling of sample volumes down to 5 μl , dynamic positioning, and automated temperature control, achieve accurate results while minimizing sample loss and contamination.

Run automated multi-sample solution scattering measurements and data analysis.



Extensive selection of sample holders and environments

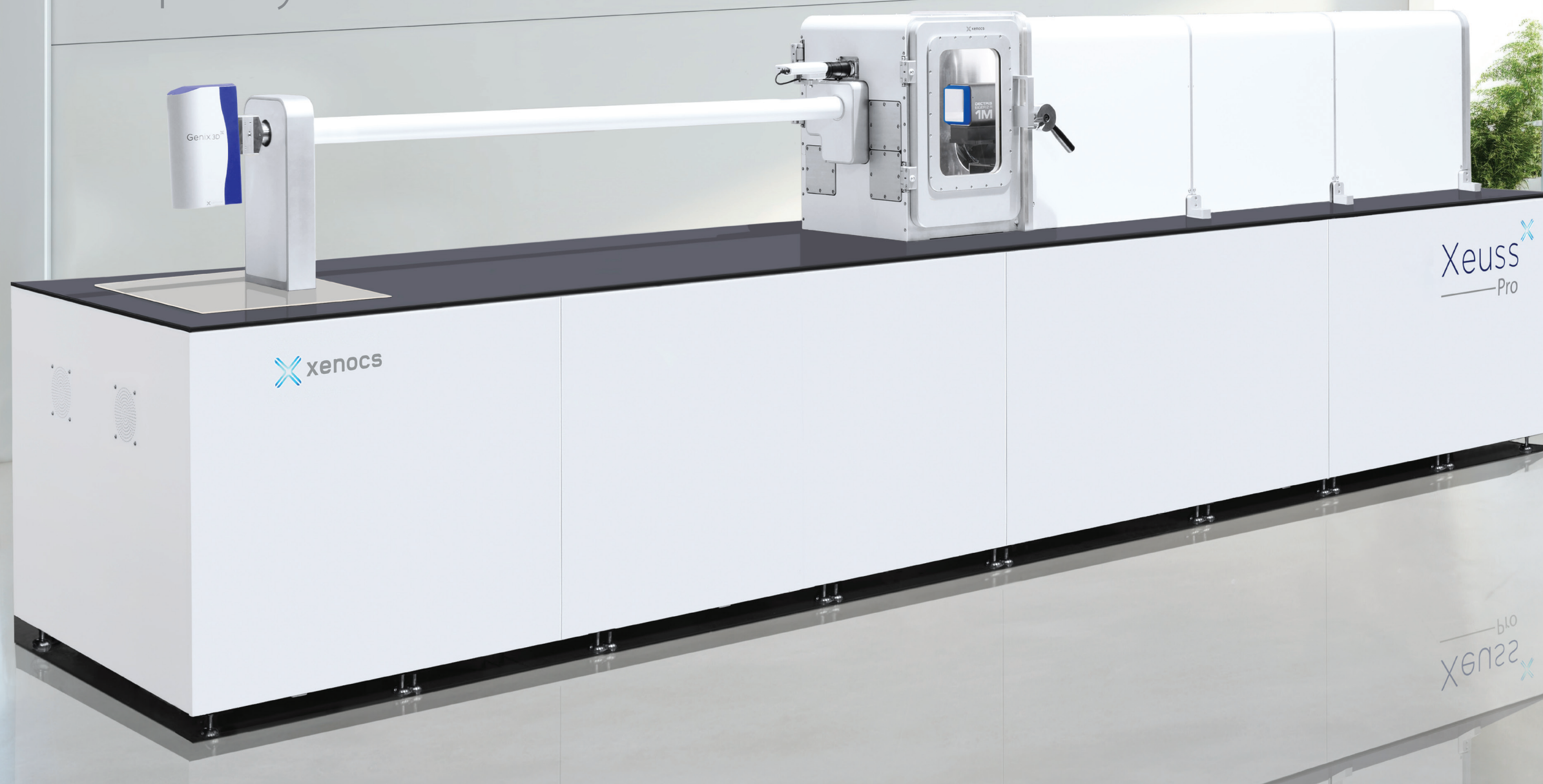
To enhance the versatility and precision of SAXS measurements, enabling accurate characterization of materials under various conditions, we offer a variety of sample holders and environments.

These include holders for different sample types such as liquids, powders, and solids, as well as specialized environments for temperature control, humidity control, and tensile and shear testing.

Numerous other options are available, including additional customized solutions tailored to meet specific requirements.

Xeuss^x Pro

Ultimate data quality



Latest generation 3D optics

Xeuss Pro features state-of-the-art patented single reflection 3D multilayer optics. With an improved multilayer design and optimized geometry, these optics are engineered to significantly enhance flux, for high-resolution measurements.

Clean Beam technology

Drawing on 24 years of experience in X-ray technologies and breakthrough innovations backed by several patents, Xeuss Pro combines high flux and high resolution with low noise technology through several advanced features. These include patented single reflection 3D multilayer optics for superior beam quality and motorized scatterless slits for precise collimation. Additionally, it incorporates a high brightness, long-lasting microfocus source, a fully in-vacuum system, and a hybrid photon counting detector with proprietary automatic cosmic background reduction.

Beamstop free acquisition

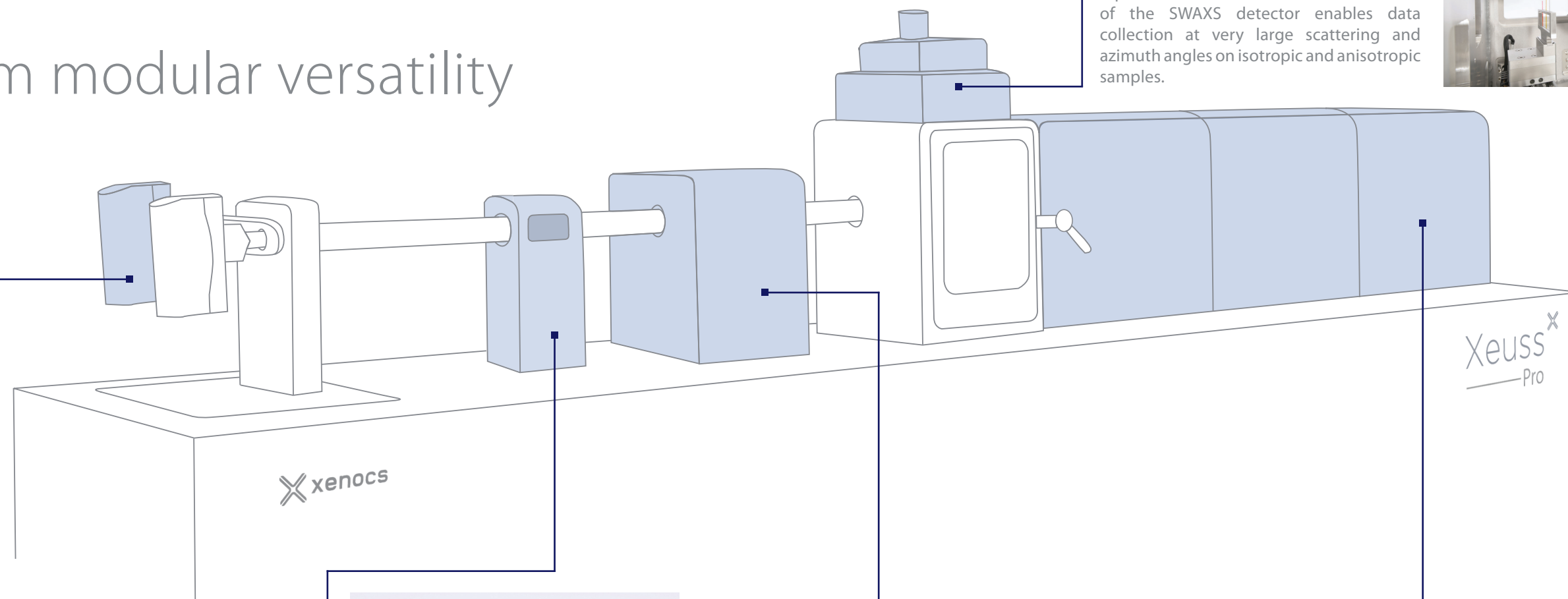
The absence of parasitic scattering from beamstop edges or detector windows ensures noise-free scattering detection at low q . By recording the direct beam alongside the sample scattering profile, precise transmitted intensity measurements enable accurate absolute intensity normalization.

Q-Xoom with increased detection surface

Q-Xoom features a fully automated, computer-controlled detector travel system that adjusts the sample-to-detector distance and performs the necessary calibrations, providing maximum measurement flexibility for optimizing experimental resolution. The virtual detector further enhances measurement capabilities by providing collection surfaces larger than 200 mm x 200 mm at any sample-to-detector distance, with automatic data reconstruction from WAXS to SAXS.

Xeuss^x Pro

Maximum modular versatility



Motorized SWAXS

Collect atomic and nano-scale information simultaneously during in situ or out of equilibrium studies. The 3-axis movement of the SWAXS detector enables data collection at very large scattering and azimuth angles on isotropic and anisotropic samples.



Multiple X-ray sources

Adapt your setup for any type of sample by selecting the appropriate radiation source. The Xeuss Pro accommodates up to three sources simultaneously (Cu, Mo, Cr, Ga K α) with motorized switching and automatic instrument alignment. Additionally, it seamlessly integrates with a rotating anode X-ray generator or a Ga MetalJet source for enhanced flexibility.

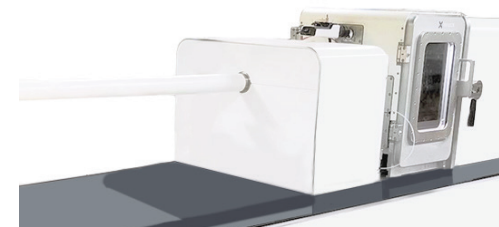


Q-Xtend

Enhance the analysis of large particles and sample aggregation studies by extending the range of data collected at low scattering angles. Q-Xtend facilitates multiscale analysis by integrating a motorized in/out crystal monochromator.

Motorized Bonse-Hart USAXS

With an additional motorized crystal channel-cut analyzer, the Bonse-Hart USAXS module enables structural characterization at length-scales as large as 2.5 microns. The automated sequential USAXS and SAXS/WAXS acquisitions on the same sample ensures seamless data merging without the need for manual handling or instrument reconfiguration.

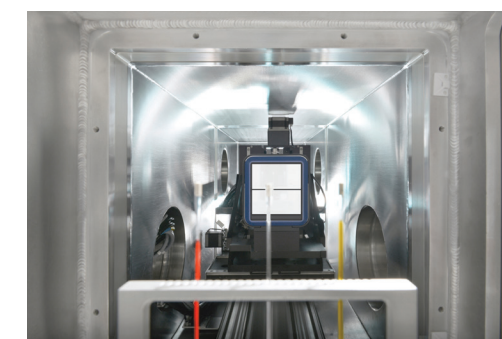


InXight imaging module

Extend the range of accessed structural information of your samples from Å to mm by targetting with imaging and probing with scattering. Additionally, the Dark-Field and Phase-Contrast Imaging (DF-PCI) option modulates the X-ray beam to derive extra information on the samples through separated image components.

AuX source

Benefit from enhanced small-spot X-ray scattering applications such as GIWAXS experiments and achieve sub-minute resolution in time-resolved studies by employing a highly focused, monochromatic X-ray beam with photon density increased by an order of magnitude compared to the main SAXS/WAXS source.



Several detector options

Optimize your experiments by selecting the ideal detector tailored to your specific resolution and sensitivity requirements. The Xeuss Pro features several in-vacuum motorized 3-axis detectors for 2D SAXS/WAXS, including the Eiger2 R (500K, 1M, or 4M) hybrid photon counting detectors.

Xeuss[®] Pro

Comprehensive software suite: intuitive acquisition and advanced analysis

The outstanding performance of the Xeuss Pro is enhanced by an exhaustive software suite for seamless data acquisition, processing, and analysis. This all-encompassing toolset ensures ease of use while maximizing the instrument's capabilities and offering advanced analytical tools for in-depth nanoscale exploration.



Xenocs Xplore control software

Intelligent control

Xeuss Pro benefits from a new, improved command and control software, the Xenocs Xplore, with an ergonomic interface that enables effortless experiment planning and setup, effectively optimizing your research workflow.

Scriptable from any language

Xplore allows you to create your own experimental sequences using your preferred programming language, including Python, providing full control over all components of your Xeuss Pro system.

Complete actions traceability

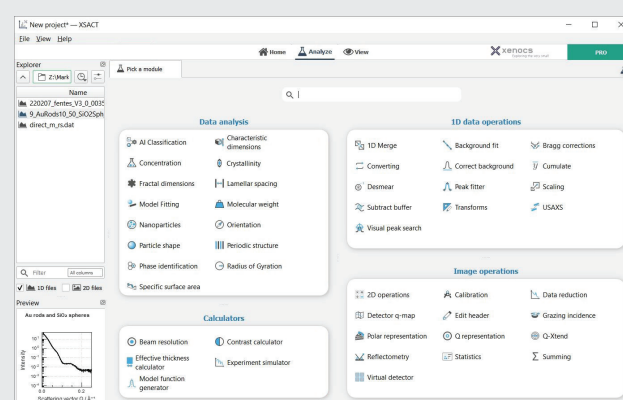
Automatic and immediate traceability of all experimental commands is provided by Xplore, ensuring compliance of measurements with current regulations for experiment integrity.

Real-time equipment monitoring

With Xplore, you can monitor equipment performance and health in real-time, ensuring you can stay informed and responsive remotely at all times.

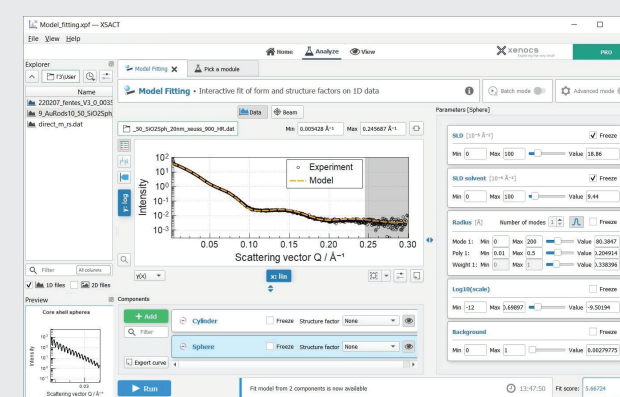
Xenocs XSACT Pro analysis software

The Xenocs XSACT Pro software transforms SAXS data analysis with its intuitive design and powerful capabilities. Featuring a wide range of algorithms, including unique modules for particle shape determination through model fitting or AI-powered classification, XSACT Pro provides comprehensive data processing and analysis accessible to beginners and experts alike.



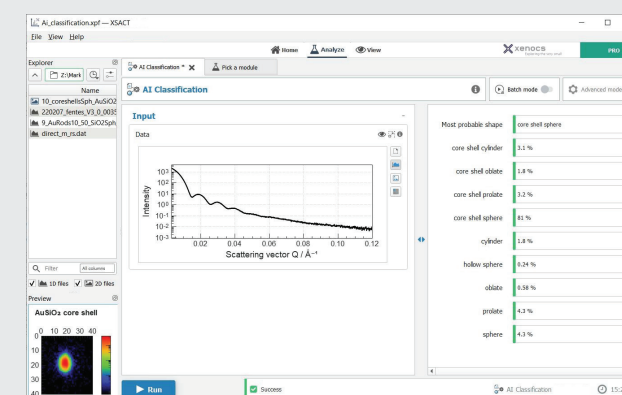
Robust and comprehensive array of data analysis algorithms

XSACT Pro offers a comprehensive suite of analysis modules for characterizing size, structure, and related properties of various materials, providing a unified and versatile solution for data processing and analysis.



Model fitting

Extract meaningful structural parameters of the sample being studied by comparing the observed data with simulated scattering patterns from both shape-dependent (e.g., spheres, cylinders, ellipsoids) and shape-independent models. The modeling can also account for interparticle interactions, polydisperse systems, and mixtures.



AI-powered classification

Employ machine learning algorithms to classify and identify particle shapes based solely on their scattering profiles, without requiring prior knowledge.

Xeuss^x —Pro Services & support

At Xenocs, we offer more than just cutting-edge SAXS instrumentation; we provide comprehensive expertise and dedicated services to support your scientific endeavors. From installation and in-depth training to ongoing technical and scientific support, we are committed to ensuring that our customers worldwide achieve optimal performance and meaningful scientific outcomes throughout the lifecycle of their Xeuss Pro system.



Onsite installation and commissioning

Ensuring your Xeuss Pro is seamlessly integrated into your laboratory environment is our top priority. Our onsite installation and commissioning services are tailored to meet your specific needs, guaranteeing optimal performance right from the start.

Operational training & scientific support

Our customized technical and scientific training programs equip your team with the skills and knowledge needed to confidently and proficiently operate the Xeuss Pro. Moreover, our team of scientific experts is available to offer guidance and support in optimizing experimental protocols, interpreting results, and exploring advanced SAXS applications in your research field.

Global support network

With a worldwide presence, we provide responsive support wherever your research takes you. Our regional service engineers provide direct assistance for software and hardware issues, ensuring a 24-hour response time. Our network of experts is committed to resolving operational challenges swiftly to minimize downtime and maximize productivity.

Partnership for success

With Xenocs, you are not just acquiring an advanced SAXS instrument; you are gaining a trusted partner dedicated to supporting your research endeavors every step of the way. Our comprehensive support services offer includes warranty programs, preventive maintenance, and annual service packages. We ensure your equipment operates at peak performance, so you can focus on achieving your scientific goals.

For all inquiries, please contact:

sales@xenocs.com

Xenocs SAS

1-3 Allée du Nanomètre
38000 Grenoble
France
T. +33 (0)4 76 26 95 40

Xenocs Inc

4 Open Square Way
Suite 101
Holyoke, MA 01040, USA

Xenocs Inc – West Branch

351 Paseo Nuevo, Floor 2
Santa Barbara, CA 93101, USA

Xenocs Asia Ltd.

806 Capitol Ctr 5-19 Jardine's Bazaar,
Causeway Bay, Hong Kong

Xenocs China

Tiancheng Times Business Plaza 28F,
No.58 Qinglonggang Road,
Xiangcheng District, Suzhou, China

Xenocs local representation

www.xenocs.com/contact/

www.xenocs.com

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