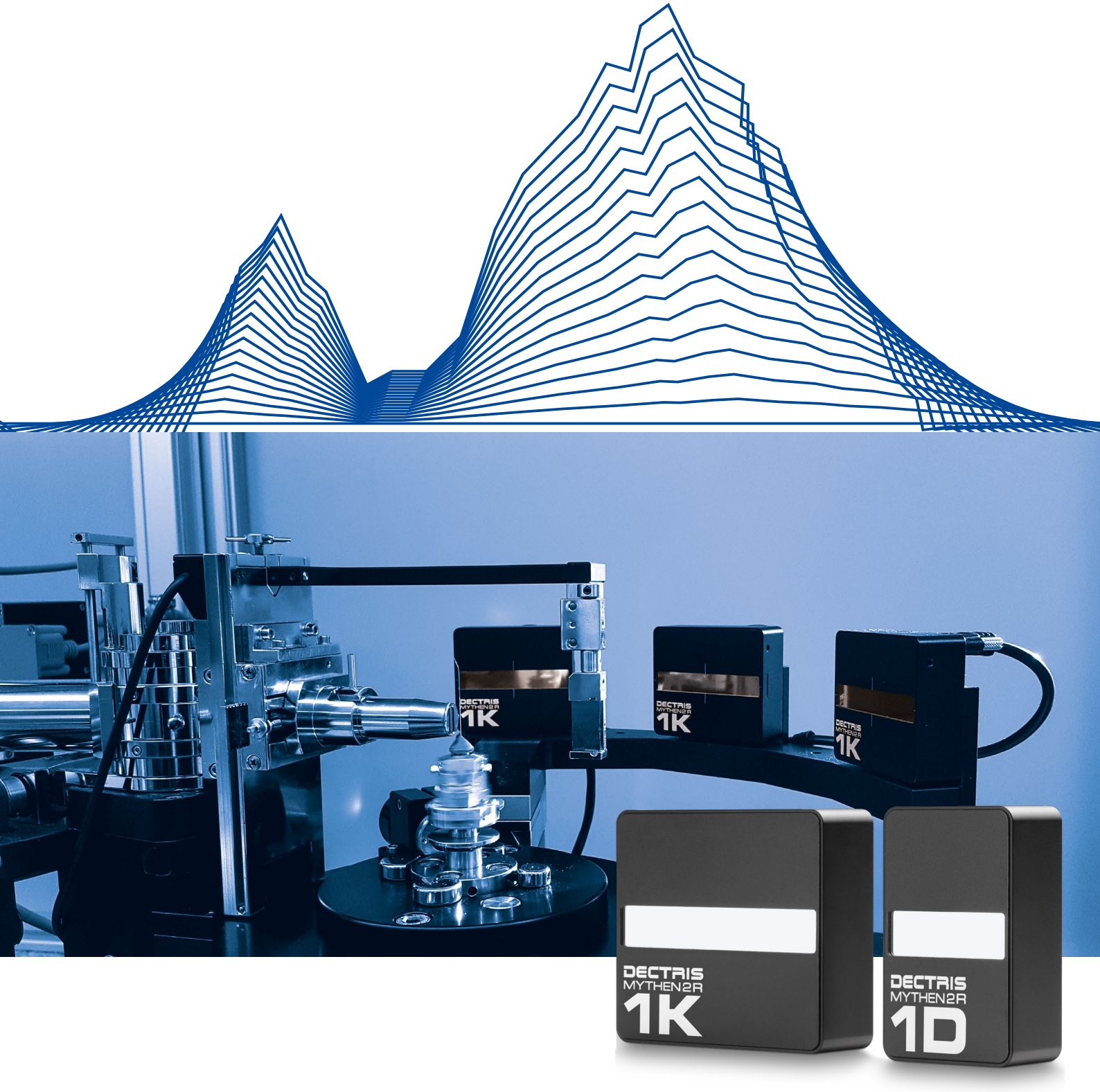
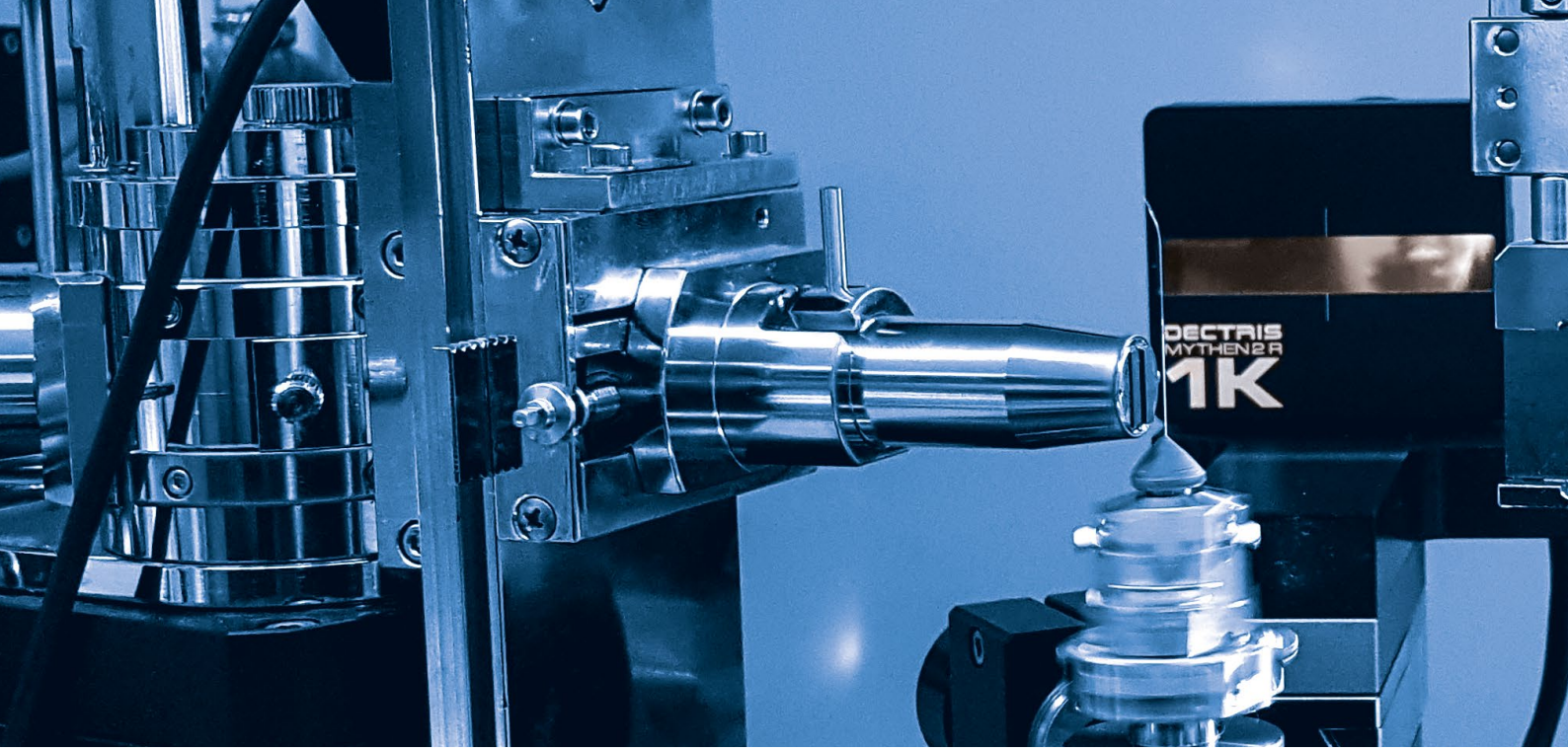
DECTRIS
detecting the future



MYTHEN2 R

HPC microstrip X-ray detectors for laboratory applications



Getting the perfect detector for X-ray diffraction, scattering, or spectroscopy experiments does not require a compromise. The widest portfolio of MYTHEN2 microstrip detectors lets you optimize both data coverage and signal-to-noise ratio for a range of X-ray energies. Two module sizes and four sensor geometries ensure that your data is collected with the best possible detector for your application.

All MYTHEN2 detectors feature no-noise performance, high dynamic range and exceeding count rates. They advance any experiment carried out with weak or bright sources, and long or short exposure times. MYTHEN2 allows you to reach the maximal resolution of your data: its strip is the narrowest available on the market.

Easy use of the systems is achieved thanks to the versatile software interface, 3 year warranty, and maintenance-free operation.

Key advantages

- No readout noise or dark current
- Premium resolution owing to 50 µm strip
- Energy range from Ti to Ag
- Fluorescence suppression
- Count rate 10^6 counts/s per strip
- Continuous scan thanks to high framerate

Applications

- PXRD analysis
- PDF analysis
- SAXS, WAXS, GISAXS
- Residual stress analysis
- X-ray reflectrometry
- WD-XRF, EXAFS, XANES

Scan-free data collection

MYTHEN2 modules come with 1280 (1K) or 640 (1D) strips. Depending on the geometry of the instrument, a 1K module can either collect 25° 2θ of diffraction data or a 1.24 eV wide energy spectrum [3]. For an even wider coverage, up to four modules can be simultaneously operated using a single Detector Control System (DCS4).

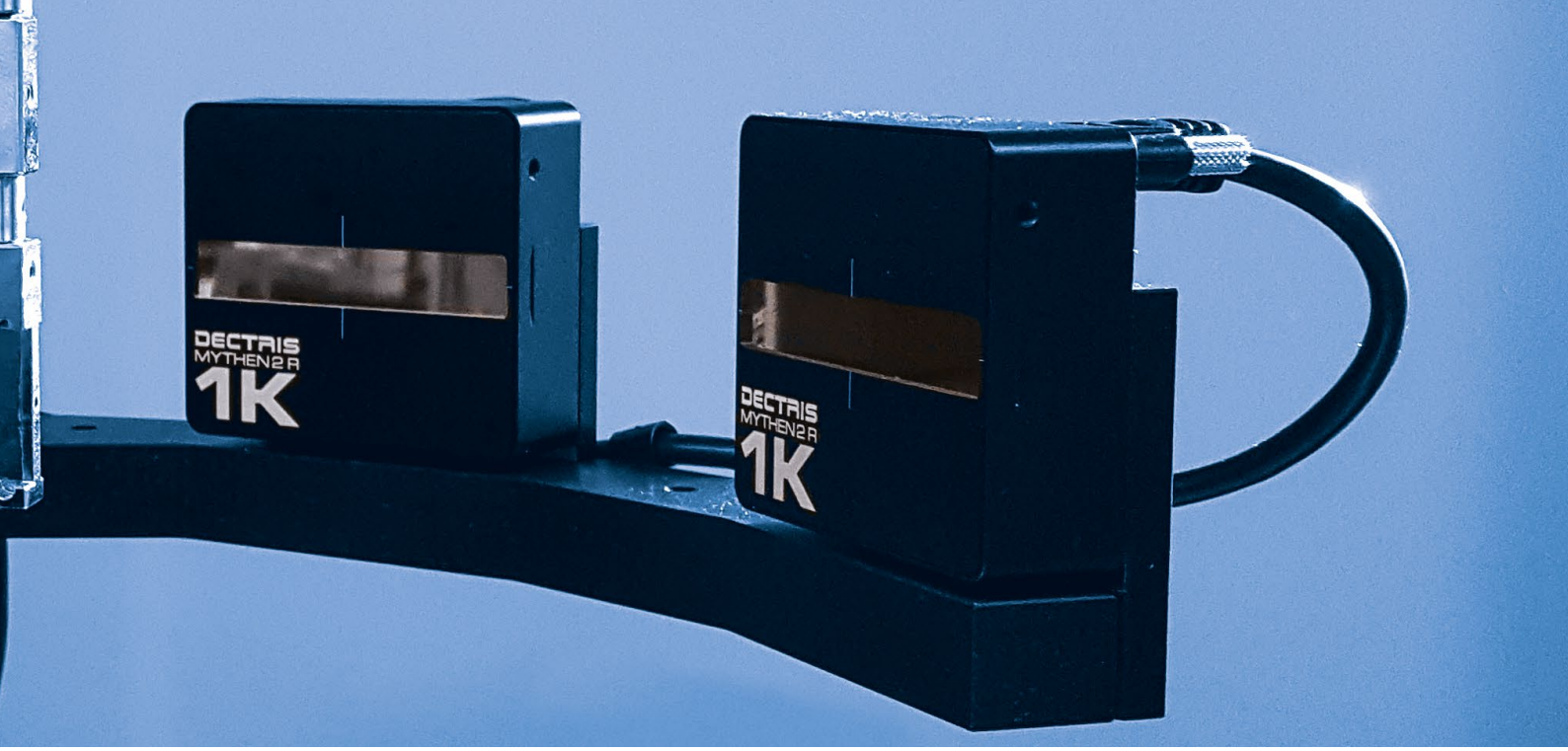
Premium resolution with 50 µm strip

MYTHEN2 provides unprecedented resolution thanks to the narrowest strip currently available on the X-ray market. Diffractometers equiped with the MYTHEN2 detector achieve a resolution of 0.03° 2θ (FWHM) [1] while the resolution of WD-XRF-spectrometers can reach 2 eV [2].

[1] *www.stoe.com/wp-content/uploads/2014/03/STOE_STADI_P-1.pdf*

[2] Németh, Z. *et al.* (2016) *Rev. Sci. Instrum.* **87**, 103105.

[3] Sato, K. *et al.* (2017) *X-Ray Spectrom.* **46**, 330-335.



Energy range from 4 to 40 keV

The wide MYTHEN2 portfolio comprises four sensor geometries, each optimized to deliver the optimal efficiency and signal-to-noise ratio for a chosen energy range. The combination of 320 µm sensor thickness and 4 mm strip length allows detection of energies as low as 4 keV. The 1000 µm sensor provides high efficiency even for Mo or Ag radiation.

OEM partners

MYTHEN2 detectors are integrated in diffractometers and stress robots of the follwing producers:

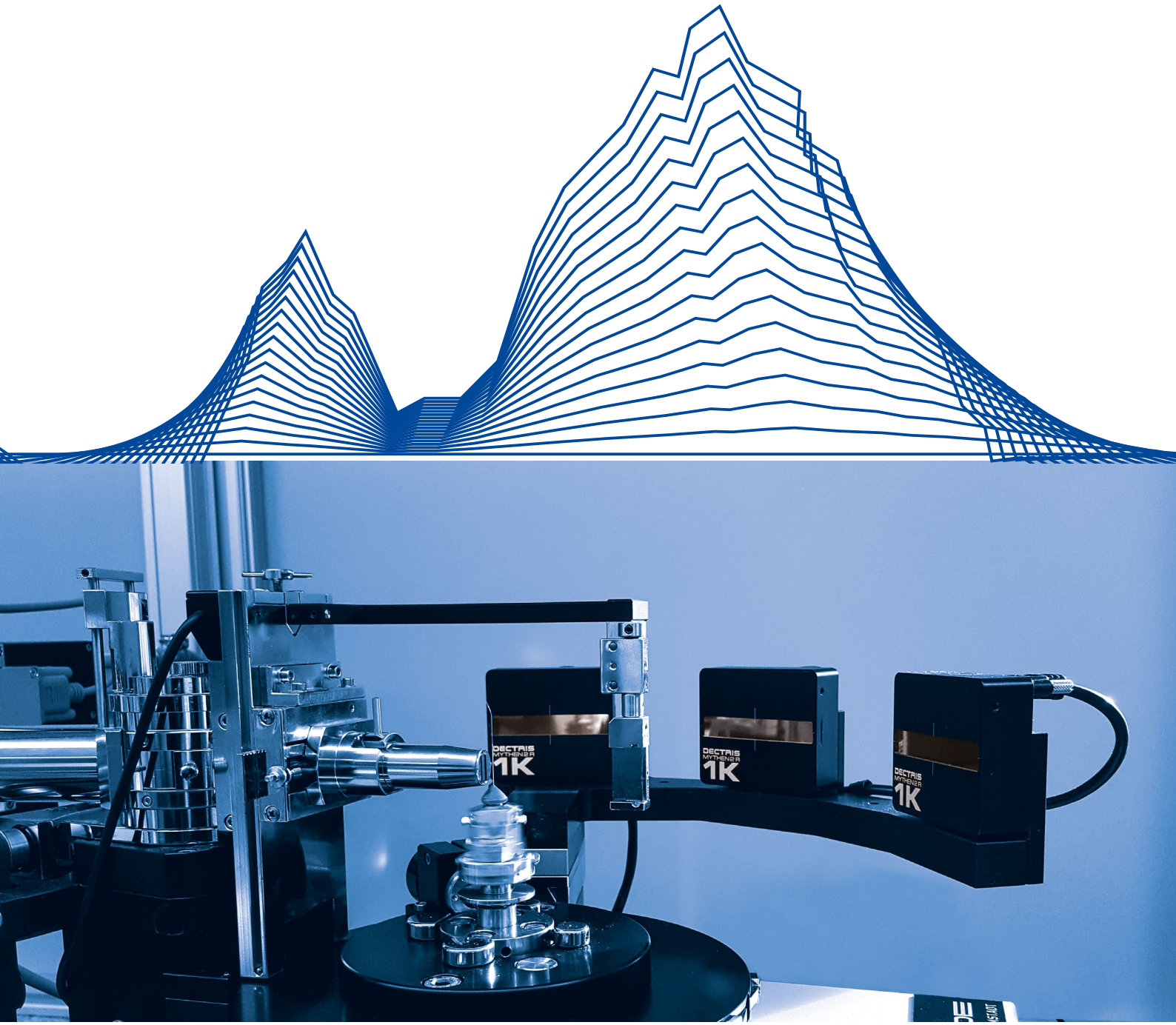
- Anton Paar
- Bourevestnik
- GNR
- MRX
- Proto
- Shimadzu
- STOE
- Stresstech
- Xplorex
- XRD Eigenmann

Technical specifications

MYTHEN2 R	1K	1D
Sensor thickness [µm]	320, 450, 1000	320, 450
Strip width [µm]	50	
Strip length [mm]	8	8 (450 µm) 4 (320 µm)
Dynamic range [bit]	24	
Energy range [keV]	4-40*	
Readout time [µs]	89	
Frame rate [Hz]	100	
Point-spread function [strip]	1	
Energy resolution (rms) [eV]	687	
Vacuum compatibility (optional)	yes	
Cooling	Air	
Module dimensions (WHD) [mm³]	70x62x22	38x62x22
Module weight [g]	180	100
DCS4 dimension (WHD) [mm³]	110x30x160	
DCS4 weight [g]	400	

* X-ray energies down to 4 keV are available only with the 320 µm x 4 mm sensors.





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