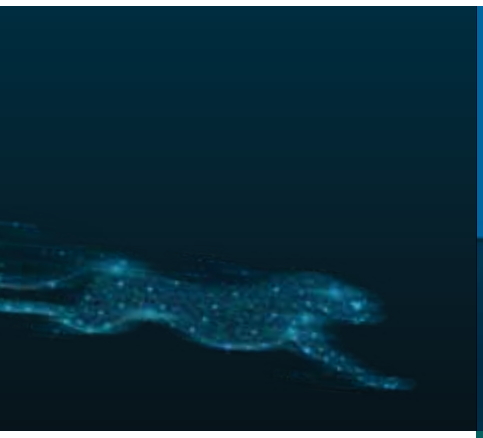
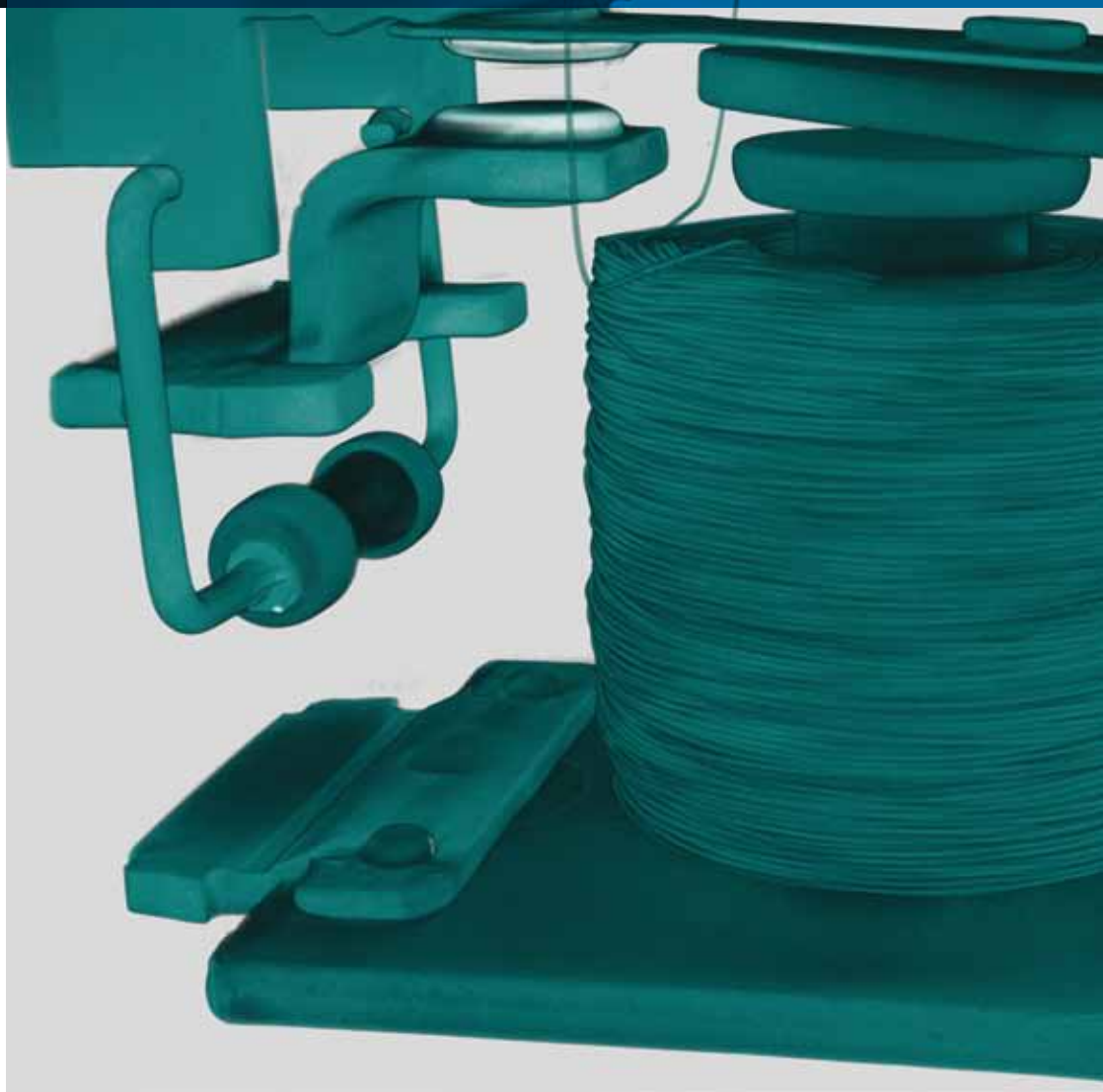
YXLON Cougar **EVO** PLUS



THE BEST SMALL FOOTPRINT
X-RAY INSPECTION SYSTEM FOR
LABORATORY APPLICATIONS

JOIN THE ***EVO***LUTION!



YXLON
Technology with Passion

Choose a custom-built EVO solution for premium inspection

Why compromise? As technology advances at an ever increasing rate, YXLON has acknowledged that a "one size fits all" X-ray system in advanced electronics no longer delivers the best solution to the customer.

We have designed a great new range of systems, each purpose built to become the leader in each of the three major market segments SMT, semiconductor and laboratory applications. We have optimized both hardware and software to provide "best in class" results for each market sector.

The systems produce higher quality and more consistent results than the current multi-purpose machines and meet even the most demanding requirements.

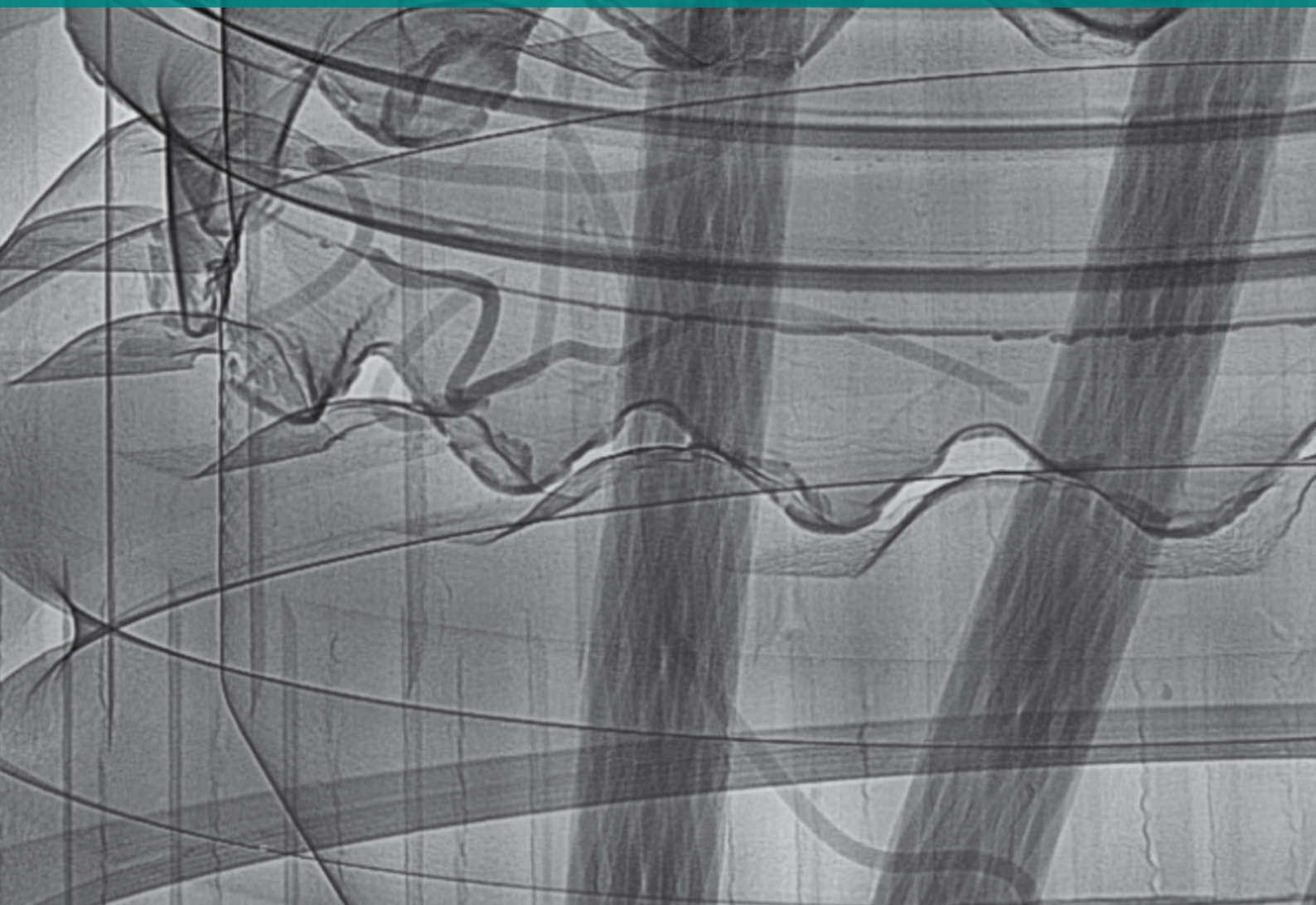
As the market leader in the electronics industry, YXLON continues to innovate where it matters most. Even the most critical observers agree our images, produced by proven technologies together with FeinFocus cutting-edge solutions, are world-class.

A comprehensive global network of no fewer than eight service centers and more than 50 service partners is the foundation of our innovative and modular support solutions.

From Asia to Africa and America to Europe, highly qualified personnel are on call to help you quickly, efficiently, and at minimum cost.

Applications

- Batteries
- Connectors
- Various hard to see electronics components
- Medical material
- Military and space electronics



Get the best system, with the smallest footprint, for demanding laboratory applications without compromise

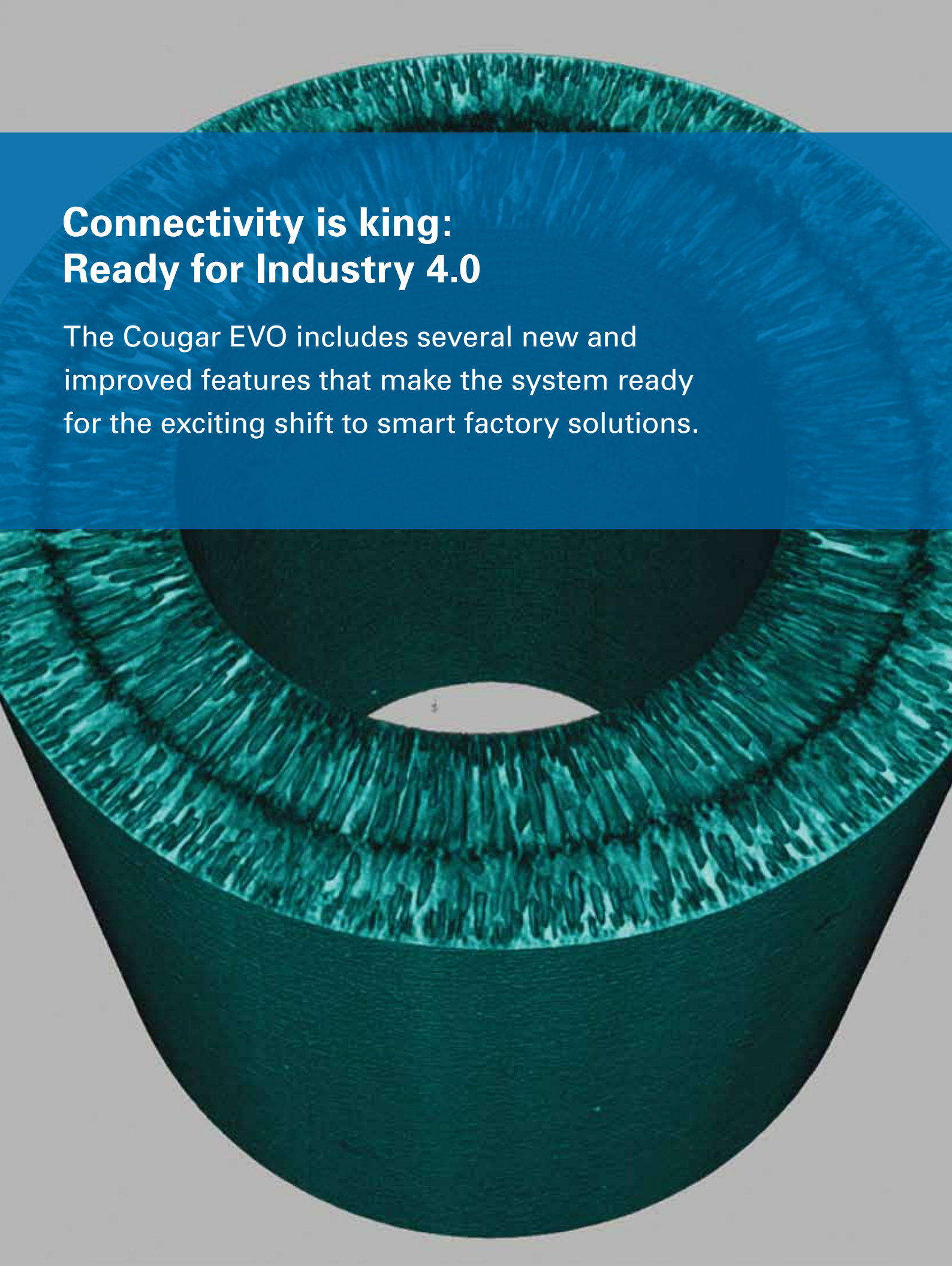
The Cougar EVO range of X-ray inspection solutions was created to achieve a simple goal: the very best image in the shortest time, in each of the market sectors. The result is sheer visual brilliance. Cougar EVO systems harness the combined power of many YXLON innovations – FeinFocus X-ray tube technology; high-power target technology; a finely calibrated, long-life flat-panel detector and a state of the art manipulation system. The systems can generate images in extremely high resolution, easily overcoming the unique challenges of the laboratory application areas.

In addition to imaging excellence, with Cougar EVO you can look forward to simple, user-friendly controls and intuitive FGUI – Feinfocus Graphical User Interface – software. Not to mention the myriad of benefits of comprehensive automation. One-click solutions make manual inspection effortless and live SMART filters ensure perfect images.

Easy Teach-In makes it simple to program complex automated routines that guide you swiftly through inspection steps and deliver repeatable, reliable results and automated reports.

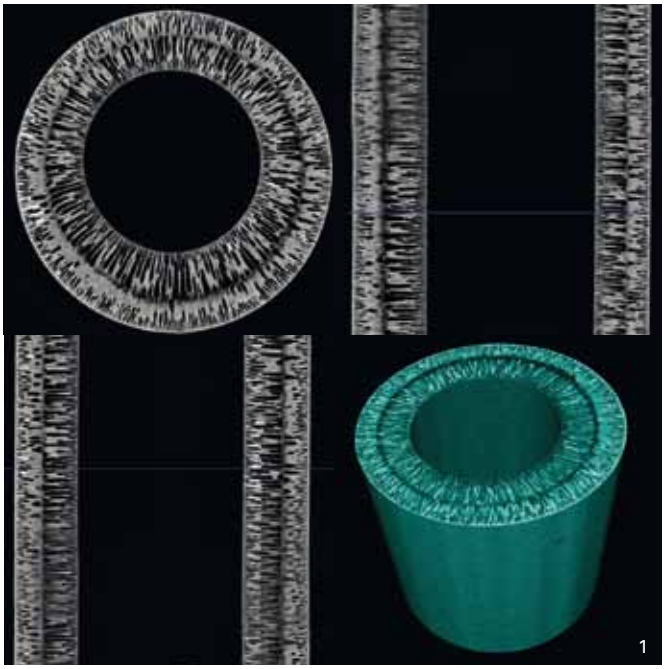
Key benefits for labs

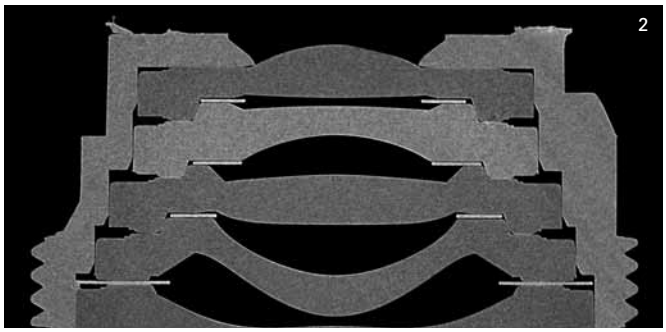
- Ultimate quality resolution for failure analysis applications
- High-performance CT inspection for all demanding applications
- Highest industry CT reconstructions with VGStudio and Siemens Software

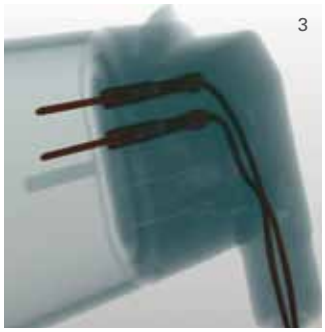


Connectivity is king: Ready for Industry 4.0

The Cougar EVO includes several new and improved features that make the system ready for the exciting shift to smart factory solutions.







1 Ceramic filter inner structure
2 Phone camera lens
3 Connector for automotive industry

One click. Multiple effects.

One-click solutions make it easy to perform the advanced manipulations required for fast and reliable X-ray inspection. So the functions Click & Center and Frame & Zoom can be carried out with one simple click.

micro3Dslices.

By using Advanced Multi-Slice technology, the nondestructive inspection of larger areas is possible and substantial cost savings will be achieved as samples are no longer destroyed by micro sectioning. Even better, these slice-by-slice images can be analyzed automatically as easily and quickly as a 2D image showing voiding at interfaces perfectly clearly, the key to reliability.

AXI Barcode Management.

Now you can trace every inspection separately via barcode. Which means every result in the final report can be traced as well. Perfect for automotive and other demanding applications.

Enhanced technologies.

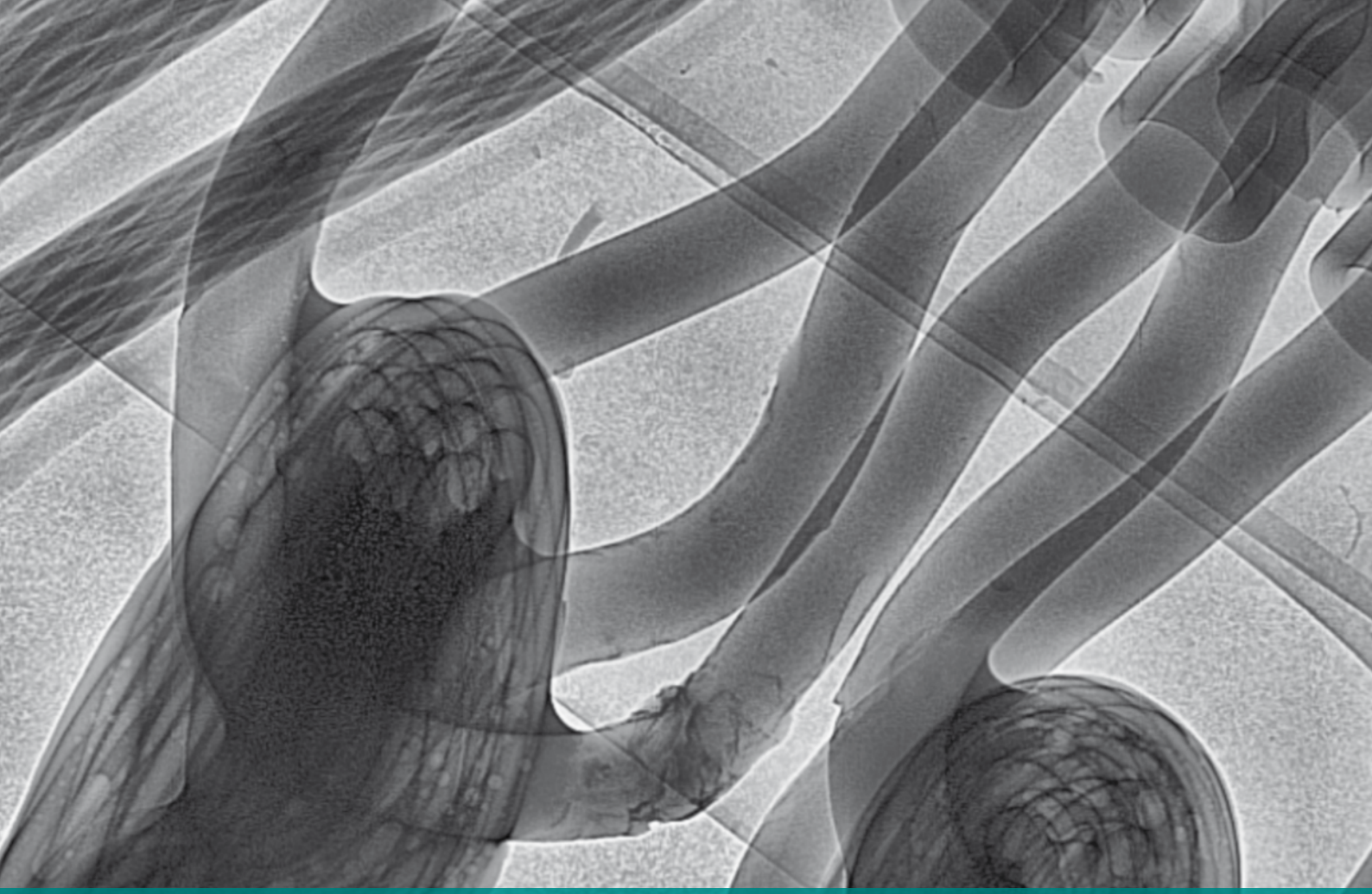
Easy operation is worth little without quality results that meet the required standard. Which is why YXLON upgraded a number of trademark Cougar EVO features, while ensuring that it remains the best device in its class:

- **Extended BGA Inspection**
With Cougar EVO, you can quickly select and index individual balls, either manually or using automatic grid detection. A wizard guides you step-by-step through the workflow and ensures perfectly accurate and repeatable results. Plus, the feature allows multiple operators to run the same inspection routines and obtain perfectly consistent results.

- **Extended ADR Interface**
Cougar EVO software can be tailored to individual requirements, with operators free to define their own specific analysis. This also includes customized algorithms.

- **Computed Tomography**
Cougar EVO Plus is equipped for CT with the microCT module. This enables CT for the next level of sample inspection, with in-depth 3D examination of inspection items via virtual cross sections and layers. With its user-friendly QuickScan software and intuitive handling, the module delivers 3D images and virtual slices within a minute.

YXLON Life Cycle Service
What are your specific requirements? YXLON offers a wide range of service modules and packages tailored to your needs. Your benefits include:
- High system availability
- Low operating costs
- Superior inspection results
- Guaranteed operational safety
- Prolonged system lifetime



The EVOlution continues: faster and more precise

In addition to enhancements to established features, Cougar EVO operators benefit from three advanced technologies.

eHDR-Inspect

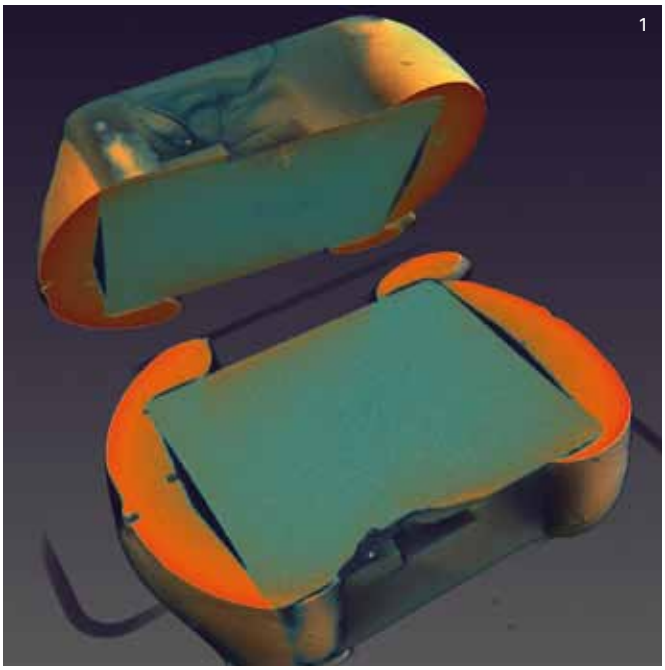
Highest product quality is a major competitive advantage in electronics. Developed especially for the electronics market, our eHDR filter highlights critical structures with just one click. It detects even the slightest variances in grayscale and no defect will be missed, thanks to our software and the enhanced 16-bit grayscale values. This is a real “game changer” as it allows you to easily see faults that were invisible before.

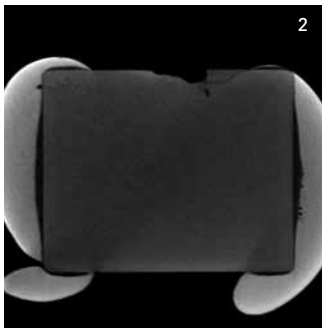
micro3Dslices

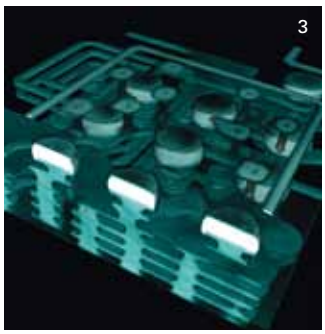
Cost-effective inspection is one of the main factors when reducing overall product costs. By using Multi-Slice technology, the non-destructive inspection of larger areas is possible and substantial cost reductions will be achieved, as samples are no longer destroyed by micro sectioning. Even better, you can analyze these slice-by-slice images automatically as easily and quickly as a 2D image, showing voiding at interfaces clearly, the key to reliability.

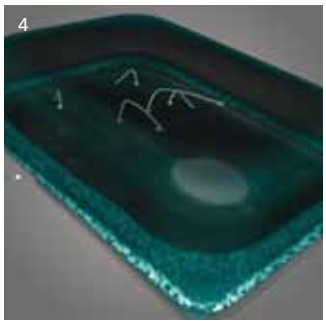
Multi Area Void Calculation (MAVC)

Today’s soldering connections are getting more and more complex. QFNs and other bottom terminated devices can only be inspected using X-ray. Not using X-ray leads to a high risk of missing solder joints or large areas of voiding which could result in product failures. MAVC helps detect voids in complex soldering designs. With just four parameters to adjust, setup is quick, simple, and cost-effective. Results are consistent, repeatable and accurate.









1 MLCC device in CT volume view
2 Top slice view MLCC device with a crack
3 FBAR package 3D view
4 Phone speaker

Our record: Brilliance by numbers.

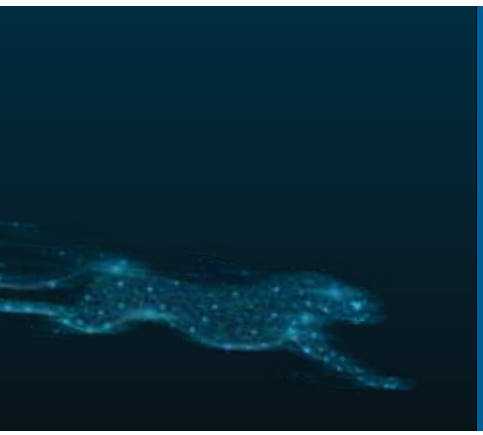
General Product Features	
Time to first image (typ.)	~ 10 s
Reconfiguration time (typ.)	< 60 s
µCT scan time	~ 7 s
µCT reconstruction time	~ 60 s
micro3Ds scan time	~ 20 s
micro3Ds reconstruction time	~ 20 s
System window	380 mm x 200 mm
Monitor	New 27" Ultrasharp, wide viewing angles

X-Ray Tube	
Tube type	open X-ray tube
Target	transmissive
Voltage range	25–160 kV
Current range	0.01–1.0 mA
Max. tube power	64 W
Max. target power	15 W
Detail detectability	< 400 nm
X-ray intensity control	TXI

Manipulation	
Manipulation control via	mouse or joystick
Inspection area (max.)	310 mm x 310 mm (12" x 12")
Sample size (max.)	440 mm x 550 mm (17" x 21")
Sample tray axes	X,Y, rotation
Oblique viewing	+/-70° (140°)

Image Chain	
Geometric magnification (max.)	2,000x
Total magnification (max.)	256,000x

Physical Dimensions	
Width / depth / height	1,100 / 1,050 / 2,200 mm
Weight	~ 1,450 kg



JOIN THE EVOLUTION!

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