



BIIT elevates battery inspection precision with Comet X-ray's MesoFocus 225

BIIT Electronics, a leader in advanced battery inspection technologies, is setting new industry standards by adopting Comet X-ray's **MesoFocus 225** sealed X-ray tube. This collaboration marks a significant step forward in ensuring the safety and reliability of modern battery systems.

Hangzhou, China

In a recent talk, Jiang Difeng, After-Sales Supervisor at BIIT, shared his insights into the transformative impact of the MesoFocus 225 on their battery inspection processes. With over two and a half years of experience in X-ray source maintenance and equipment repair, Jiang offers a firsthand account of the challenges and breakthroughs associated with battery inspections.

Addressing complex challenges in battery inspection

"Battery inspection, particularly with the intricate nature of CT scanning, presents unique challenges". Jiang highlights a critical issue: "the low contrast in grayscale images, which makes it difficult to distinguish between actual defects and shadows caused by scattered X-rays".

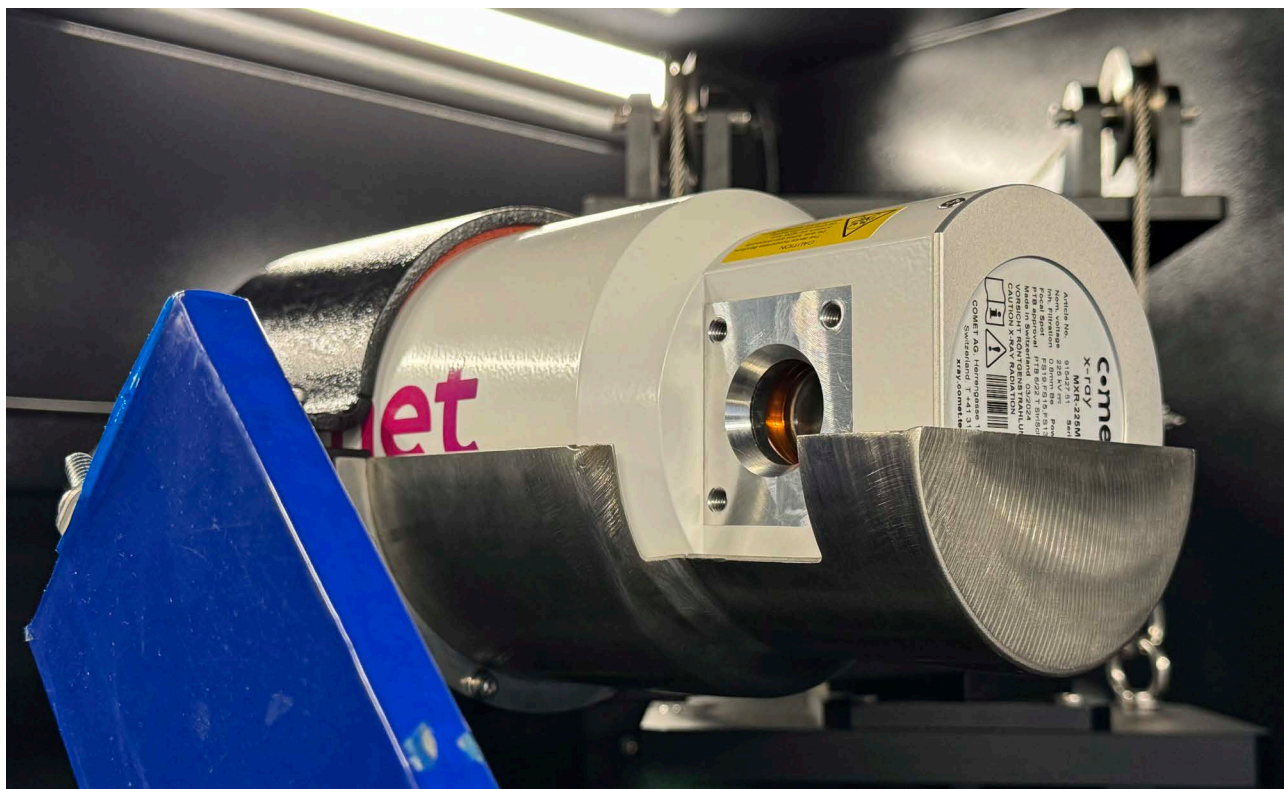
"The battery is encapsulated with a thin film of electrolyte that fits closely to the electrode coating," Jiang explained. "Accurately measuring a high-precision battery sample is challenging, especially in determining whether anomalies are genuine defects or merely trailing shadows."

Why MesoFocus outperforms traditional open microfocus tubes

Jiang emphasizes the superiority of the MesoFocus sealed X-ray tube over traditional MicroFocus open tubes, particularly in ease of use and maintenance. "The sealed tube offers significant advantages. It simplifies operation and maintenance, making after-sales service and customer training much easier". "Unlike open tubes requiring frequent filament replacements about every 500 hours, the MesoFocus tube's durability minimizes downtime, enhancing overall operational efficiency".

Meeting the demands of battery inspection

When asked about the MesoFocus 225's performance, Jiang stated "so far the MesoFocus works perfectly, with no problems at all. The resolution is completely sufficient and ideal for battery inspections. The product's dual settings of 50 microns at 50 watts and 130 microns at 130 watts provide the flexibility and power needed for precise measurements, fully meeting Biit's testing requirements."



The MXR-225MF tube is securely fixed and protected, featuring shielding against scattered X-rays.

A perfect fit for battery applications

Jiang further explained why the MesoFocus 225 is ideally suited for battery applications. "The X-ray tube's training time is significantly reduced with MesoFocus, which enhances our operational efficiency. Additionally, its mechanical design offers substantial advantages in assembly, debugging, handling, and transportation". These features make the MesoFocus 225 a perfect match for the demands of battery inspection.

A partnership built on trust and excellence

Reflecting on BIIT's partnership with Comet X-ray, Jiang expressed high satisfaction: "Our cooperation has been harmonious from the start. I highly appreciate Comet's after-sales service and technical guidance." Since the collaboration began in late 2022, Comet's commitment to service and communication in the after-sales dialog have strengthened our relationship, making Comet X-ray a trusted partner for BIIT.

Looking ahead: The potential of MesoFocus in battery manufacturing

"Whether it's the product's performance, after-sales service, or technical features, I highly recommend the Comet X-ray MesoFocus series. The MesoFocus solution is great for us and our customers, like BYD - and I can confidently recommend the MesoFocus closed X-ray tube to other cell manufacturers."

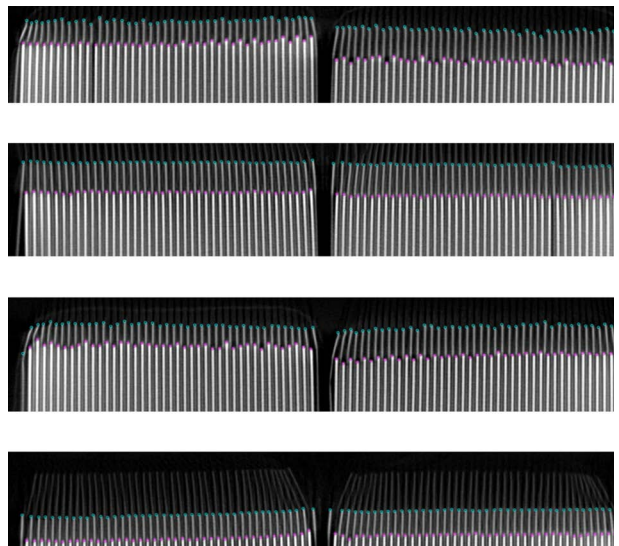
BIIT's adoption of the MesoFocus 225 has improved the precision and efficiency of their battery inspections and set a new benchmark for the industry. This collaboration underscores the critical role of advanced X-ray technology in ensuring the safety and reliability of modern energy solutions.



The HR 225C offline CT system, featuring Comet MesoFocus 225, will be delivered to at least 18 battery factories across regions in China.



Mr. Jiang Difeng, After-Sales Supervisor at BIIT



Showing electrode over-bending or breaking in tab side.

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Mr. Jiang Difeng, After-Sales Supervisor at BIIT

Information about the BIIT HR 225C

System specifications

- Comet Mesofocus X-ray source: 20-225 kV
- Detector: 430 x 430 mm, pixel size 139 um
- Sample rotation & moving by internal robotic arm
- Software including automatic overhang recognition and measurement
- Applications: Cylindrical Cells, prismatic (blade) cells with length up to 1200 mm

Equipment features

- Fast Scanning: For battery cells with cans, a single scan takes only 15 seconds, with rebuild and analysis results available in as little as 100 milliseconds after acquisition is complete.
- Automatic Rotation Device: Minimizes material changeover frequency, improving inspection efficiency and repeatability.
- One-Button Operation: Simple interface allows operators to become proficient after just 10 minutes of training.

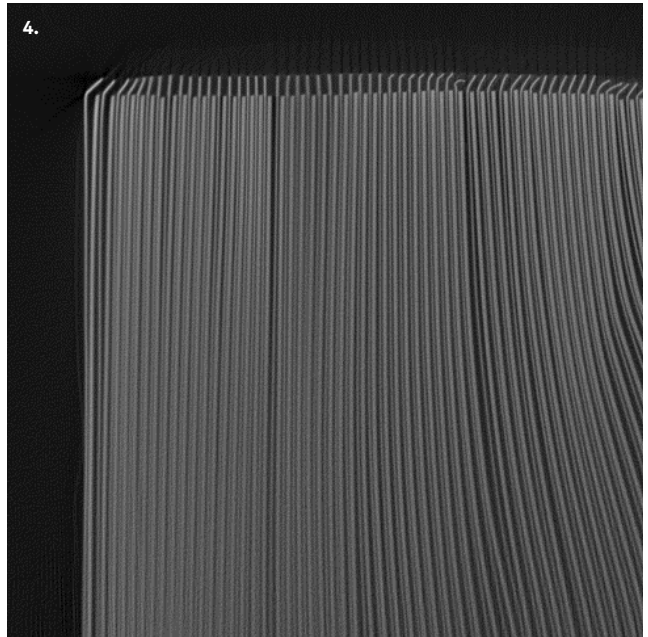
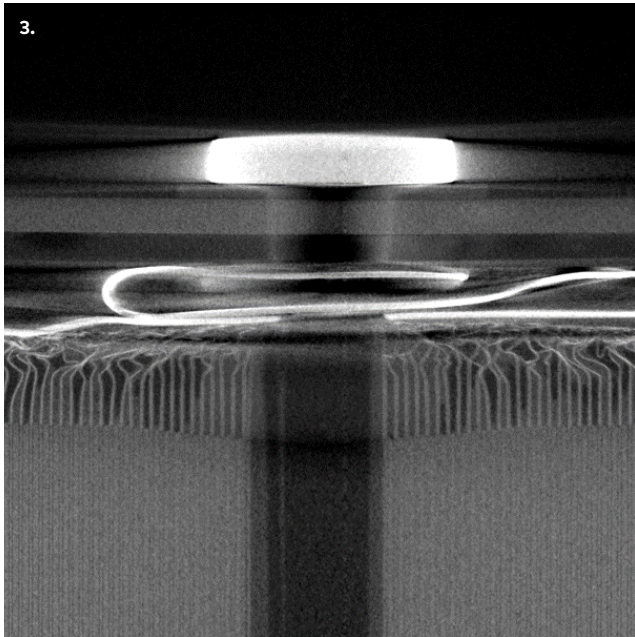
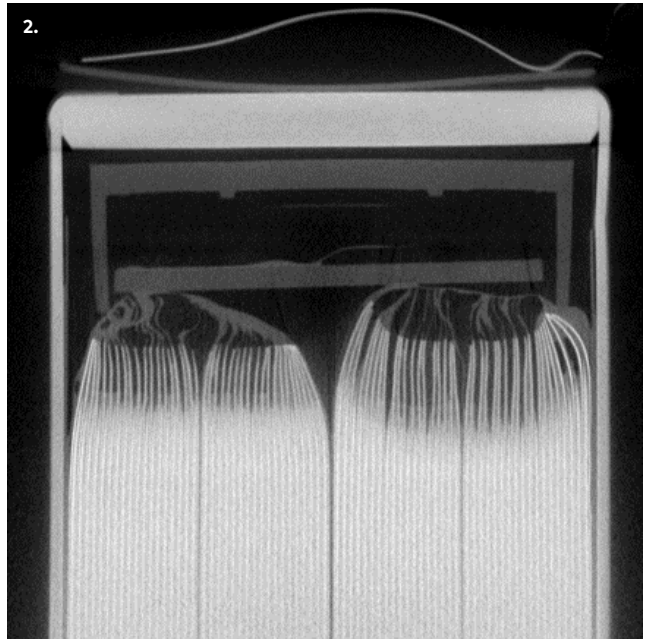
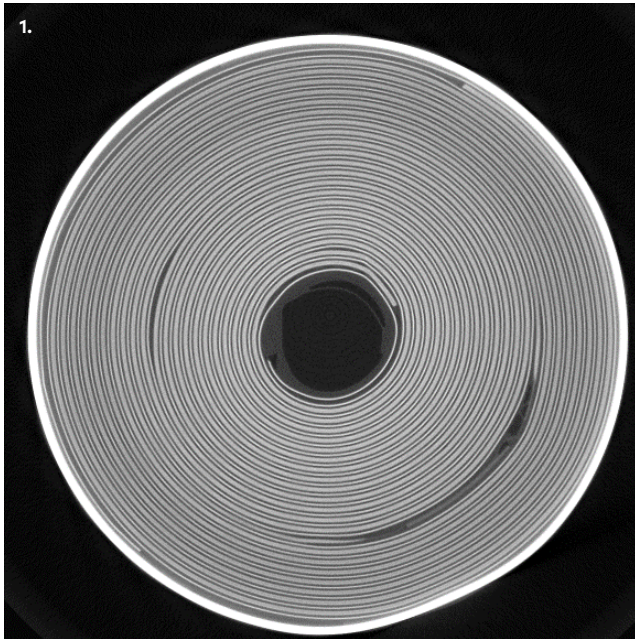
- Included Software:
 - Rebuild Software
 - Data Monitoring and Management Software
 - Image Recognition Software

Application case

- The offline system has been used in Wuhan to complete more than 10,000 tests and more than 6,000 battery cells.



[Read more about the BIIT HR 225C solution](#)



Sections of a CT reconstruction. **1.** Transverse section of a cylindrical cell **2.** Sagittal section through a prismatic cell **3.** Inspection of tab weld in a cylindrical cell **4.** Bulging in a prismatic cell

"The X-ray tube's training time is significantly reduced with MesoFocus"

Mr. Jiang Difeng, After-Sales Supervisor at BIIT



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