

Xecs
Matchmaking
Event

EXCILLUM AB

High End **X-ray sources**: Design, Development, Manufacturing

Contact: Simona Laza

Organisation: Excillum AB

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Company at a glance

- Based in Stockholm, Sweden
- Founded 2007
- 78 employees, 55% in R&I
- Sales: 12 M€
- R&I expenses: 25% of sales
- Partner in collaborative projects:
 - KDT JU & ECSEL JU (HICONNECTIONS, 14ÅCMOS, MADEin4),
 - EUREKA CLUSTERS (FA4.0), EUROSTARS, Horizon2020,
 - EMPIR, SME instrument, FP7, National grants (VINNOVA)
- Member of AENEAS
 - Participating in events and MC

Contact public funding :
simona.laza@excillum.com

EXCILLUM CONFIDENTIAL



Competences & Products

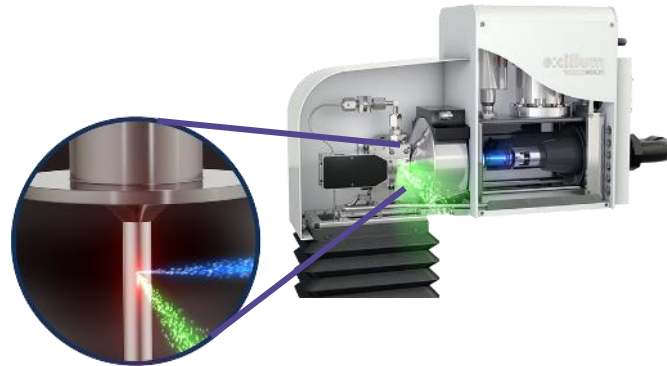
Entirely devoted to advanced microfocus and nanofocus X-ray sources

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MetalJet

World's brightest microfocus X-ray source

Liquid metal-jet anode technology



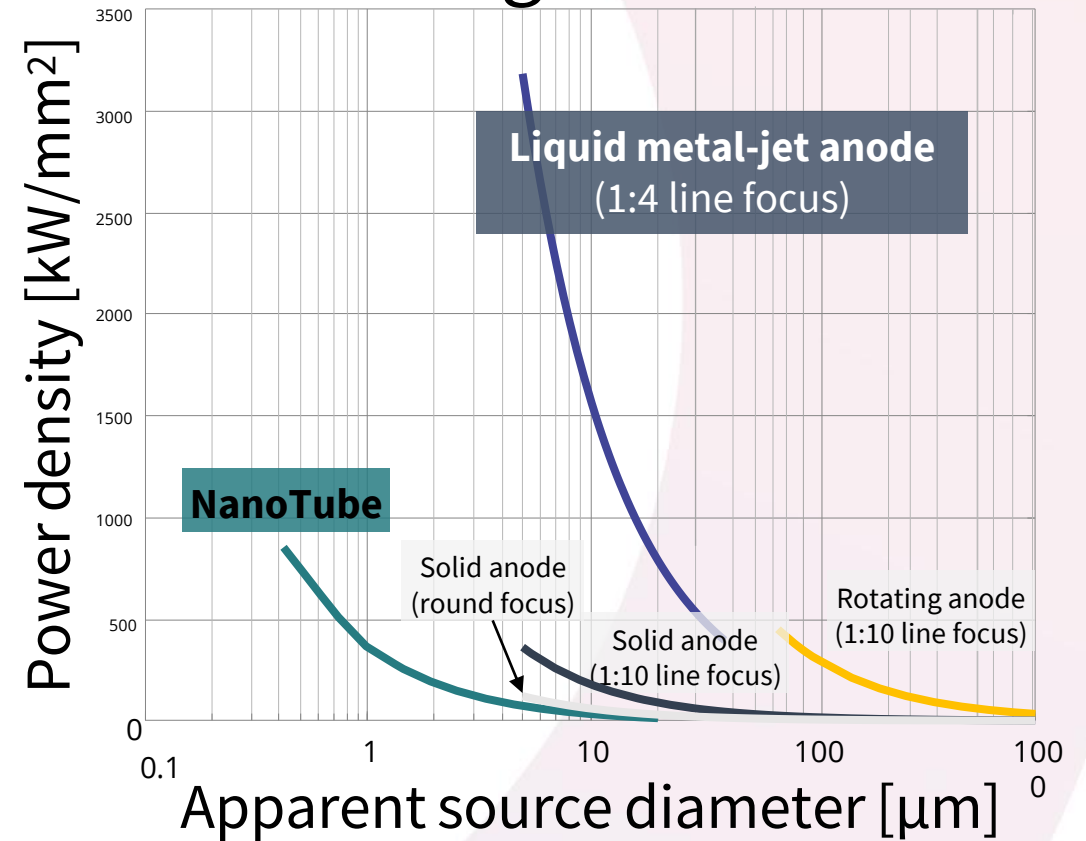
NanoTube

World's smallest X-ray nanospot

Advanced electron beam technology



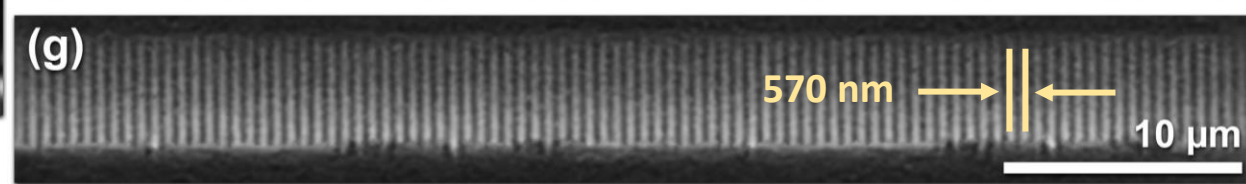
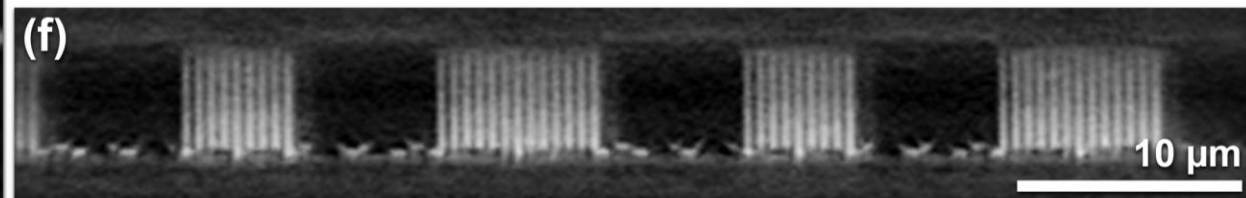
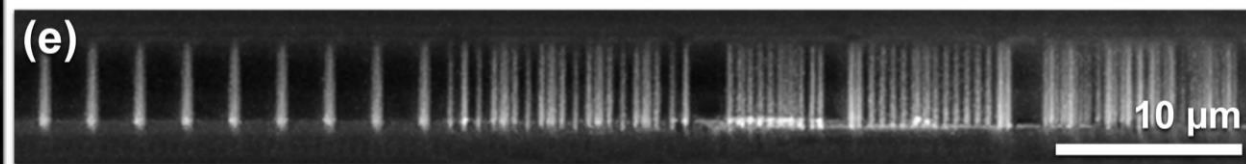
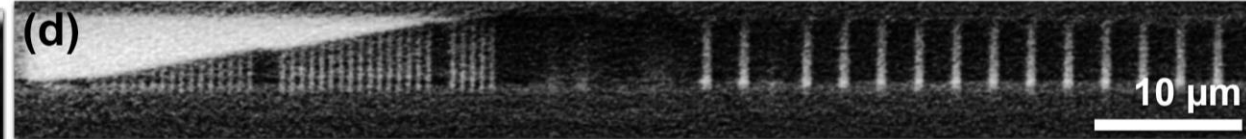
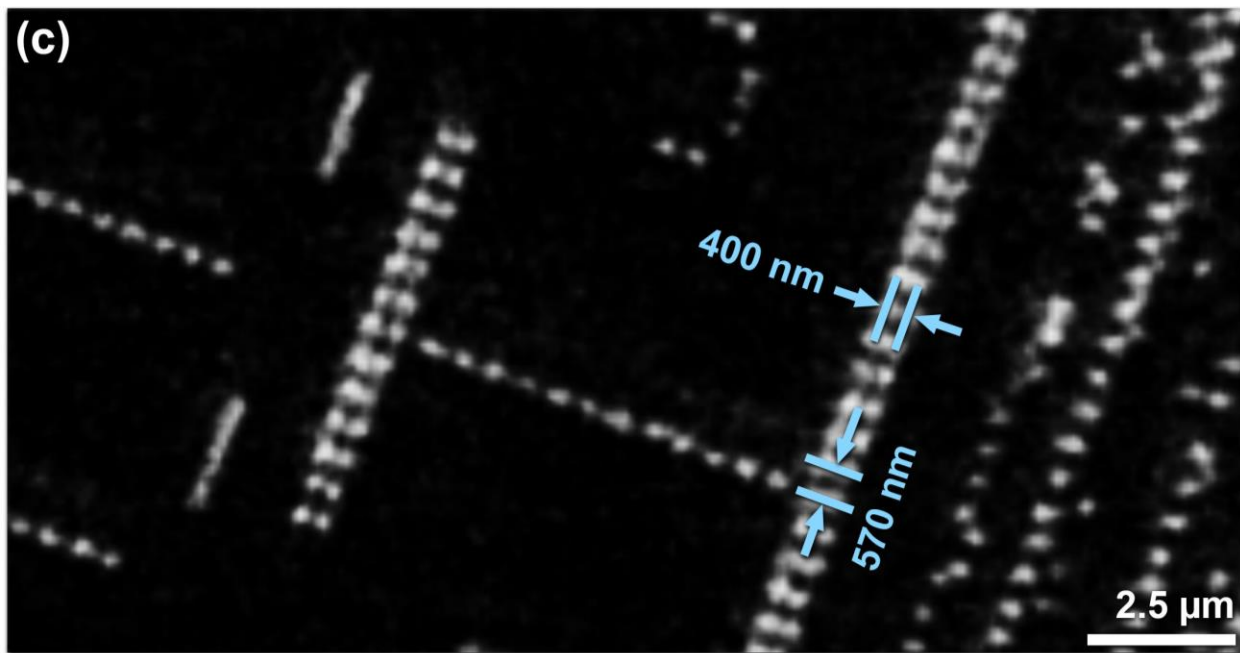
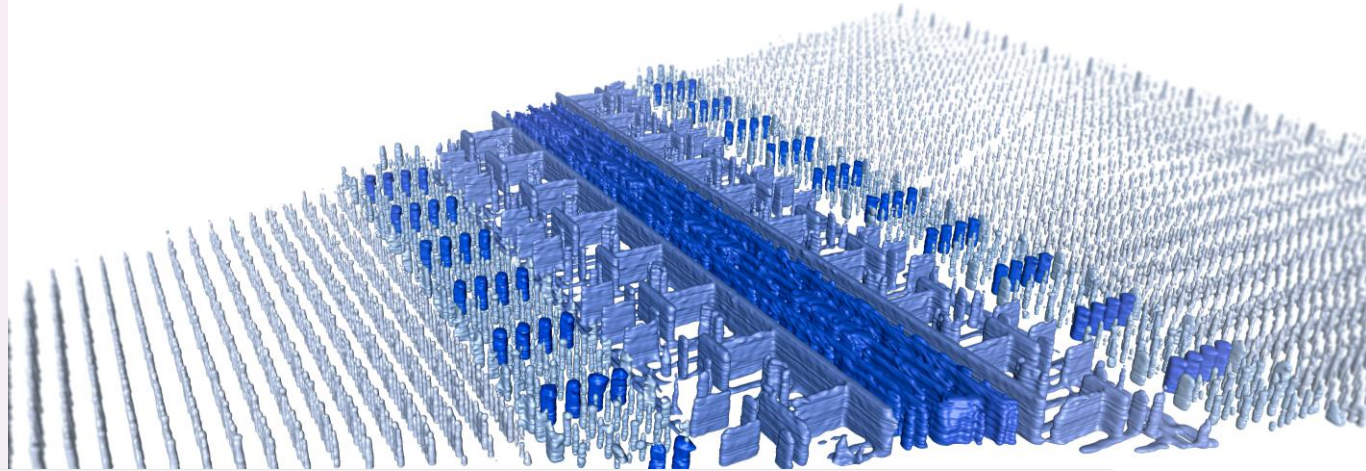
Brightness



A look inside a 3D NAND memory

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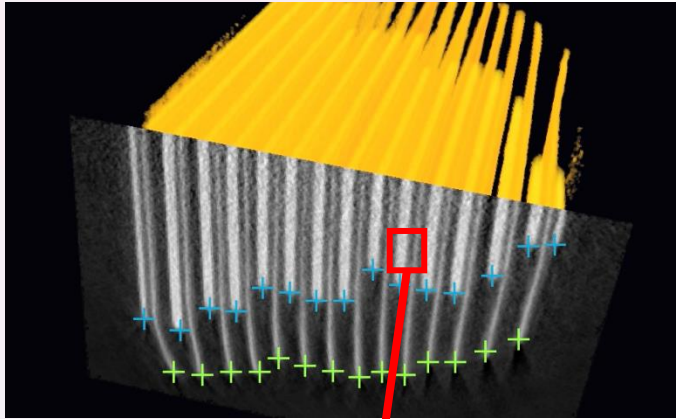
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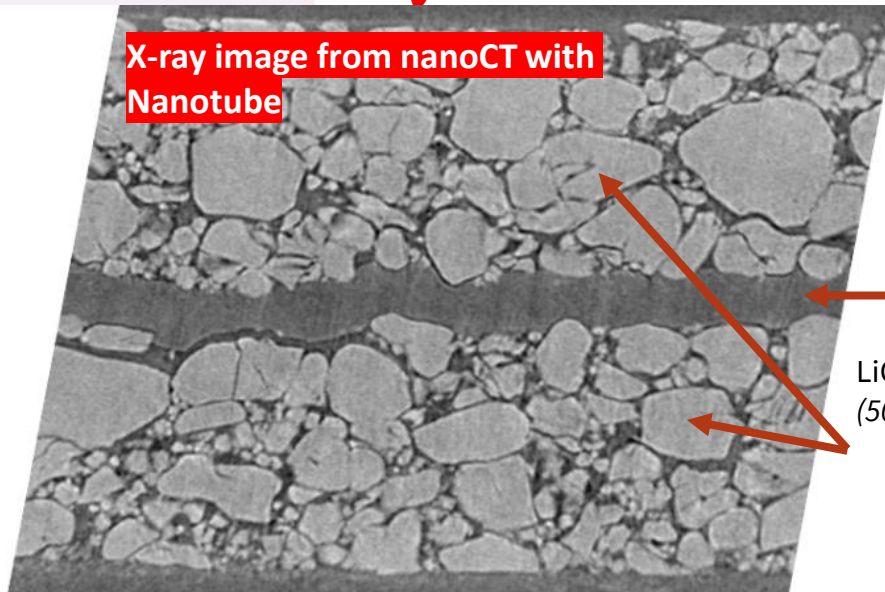
Dominik Müller et. al., *Crystals* 2021, 11, 677

NanoTube for Battery cathode inspection

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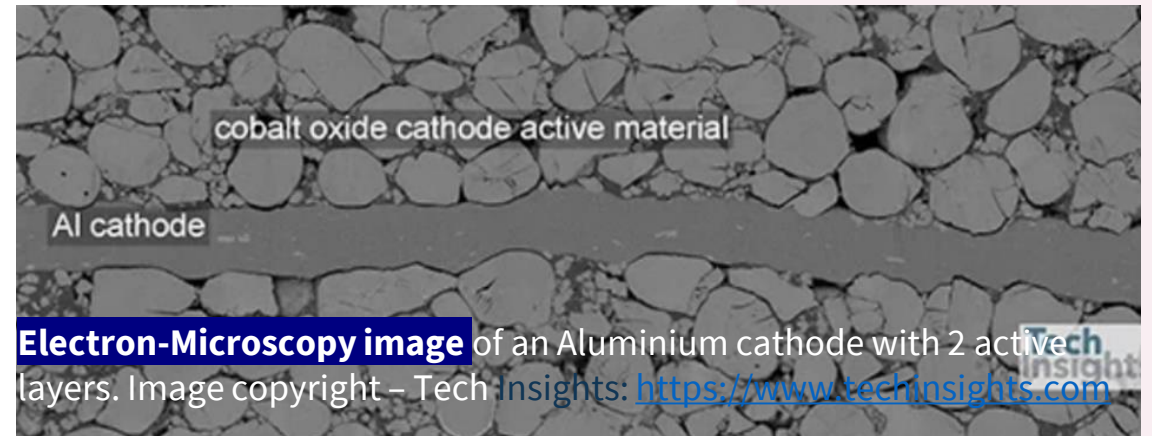


X-ray image from nanoCT with Nanotube



10µm Al cathode

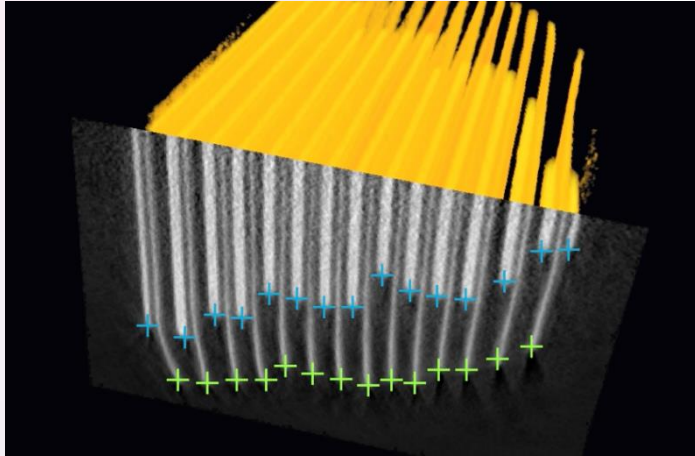
LiCoO2 Cathode (50µm per side)



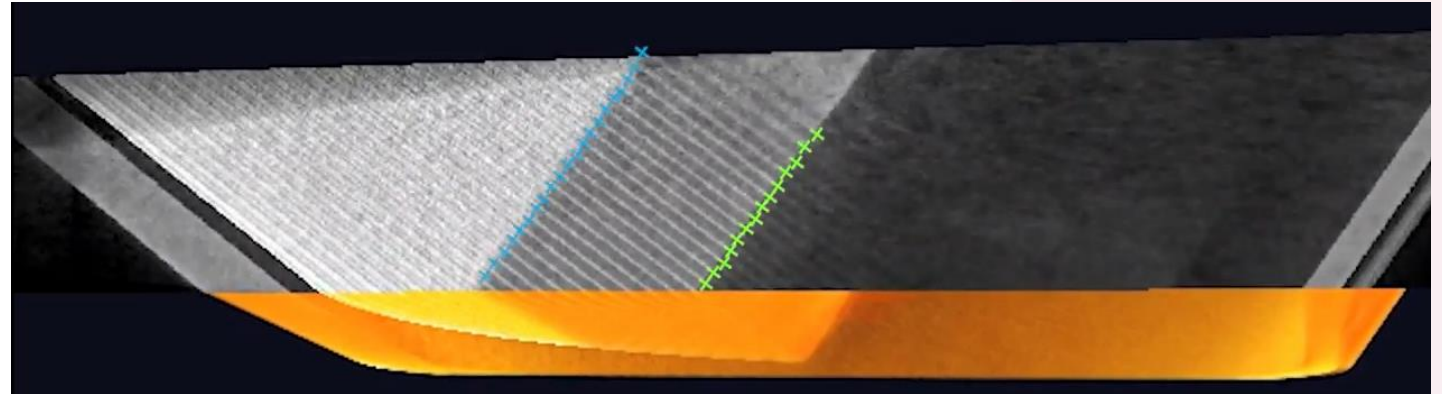
Electron-Microscopy image of an Aluminium cathode with 2 active layers. Image copyright – Tech Insights: <https://www.techinsights.com>

MetalJet for in-line Battery inspection

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3D render of the edge of a **phone battery** with a reconstructed slice and anode/cathode overhang marked



3D render of the edge of a **prismatic EV battery** scanned in **1s**.



3D render of the edge of a **phone battery** scanned in **1s**.

High-speed for **in-line inspection**

- Scan times of **1s or less**
- Detection of
 - Anode/cathode overhang
 - Particle detection
 - Etc ...



SCAN ME

1s X-ray CT of
EV battery cell
done with
MetalJet

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Collaboration Expectations

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Collaborative project of interest to you	<i>EUREKA clusters, KDT, Eurostars, Horizon Europe or other</i>
Scope	<i>Technology development and new market access</i>
Project idea	<i>High-speed, high-resolution X-ray inspection</i>
Project impact	<i>Enable fail safe electronics, Quality assurance</i>
Project consortium	<i>Searching for partner(s) in:</i> <ul style="list-style-type: none"><i>• Industrial imaging</i><i>• Inspection and metrology</i><i>• X-ray OEMs and components suppliers</i> <i>(other than X-ray source)</i>

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Thank you!

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