

AutomatED

High-throughput automatic analysis of nano-objects using electron microscopes



Positive Impact

A quick affordable way for analysis of nanoparticles' and 2D-materials' properties without switching to multiple equipment. "Swiss Army knife" SEM add-on.



Initial Validation

Experiments have been performed using a modified SEM setup. Software has been developed for the data analysis as well.



Solution

Researchers at University of Antwerpen have developed a prototype device and large-scale data acquisition software that covers the existing market gap between SEM, TEM, XRD techniques. Additionally, software for effective processing of large datasets is created.



Problem

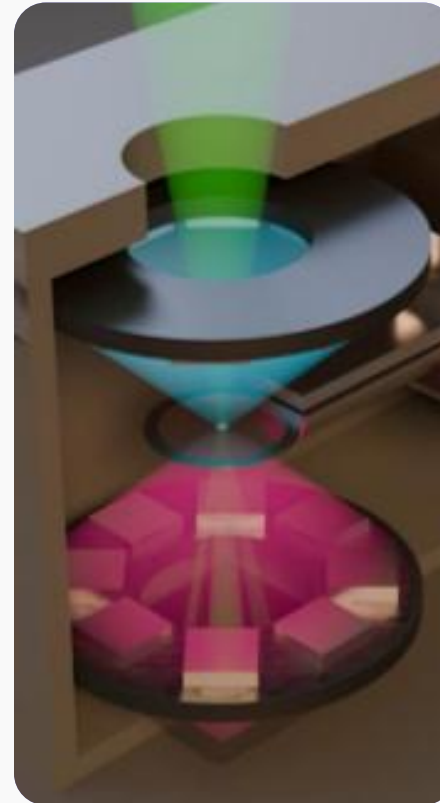
Nanoparticles and 2D materials are widely used in various industries. For every application, in-depth knowledge of the size, shape, structure and composition of these objects is crucial.

Of course, methods relying on electron microscopes and X-rays are available, but there isn't one solution for different types of measurements. These devices are limited either by their detection capabilities, their price and operating cost or are unsuitable for high statistics measurements.



Technology

- An add-on device is integrated in existing SEM setups and is capable of investigating wide range of nano-sized objects.
- Software for device control and data acquisition is available. Code is designed to perform experiments and data analysis automatically.
- Combination of state of the art and custom-made detectors for maximum information output from the sample



Call to Action !!!

We are looking for individuals with an innovative mindset and a passion for developing businesses. Work experience in the sales of SEM/TEM setups is a plus!

If you are interested, please reach out to entrepreneur@hightechxl.com



Potential Markets

This device has a potential in various markets such as :

- Nanoparticle industry
- Battery production
- 2D-materials (thin films) industry
- Hardware industry
- Electron microscopes
- Life-science
- Industrial quality assurance and legislation compliance