

# JSM-IT800: Schottky Field Emission Scanning Electron Microscope

## Neo Engine (New Electron Optic Engine)

Newly developed functionality that integrates lens control system and automatic technology, "Neo Engine" (New Electron Optical Engine) is a standard feature. Even though electron optical condition is changed, there is negligible change in beam alignment, allowing for fast and easy image acquisition at any accelerating voltage and probe current. The system is the premier example of the advanced JEOL's electron optics technology

- ✓ Improvement of automation function
- ✓ Improvement of magnification accuracy
- ✓ Improvement usability of energy filter mode



## Specifications

Resolution : up to 0.7 nm @ 1.0 kV, 0.5 nm @ 15.0 kV  
 Accelerating voltage : up to 30 kV  
 Probe current : few pA ~ 500 nA (30 kV), few pA ~ 100 nA (5 kV)

Detector : vBackscattered, Secondary, In-lens, STEM, Low Vacuum  
 Image filter : LIVE-AI filter

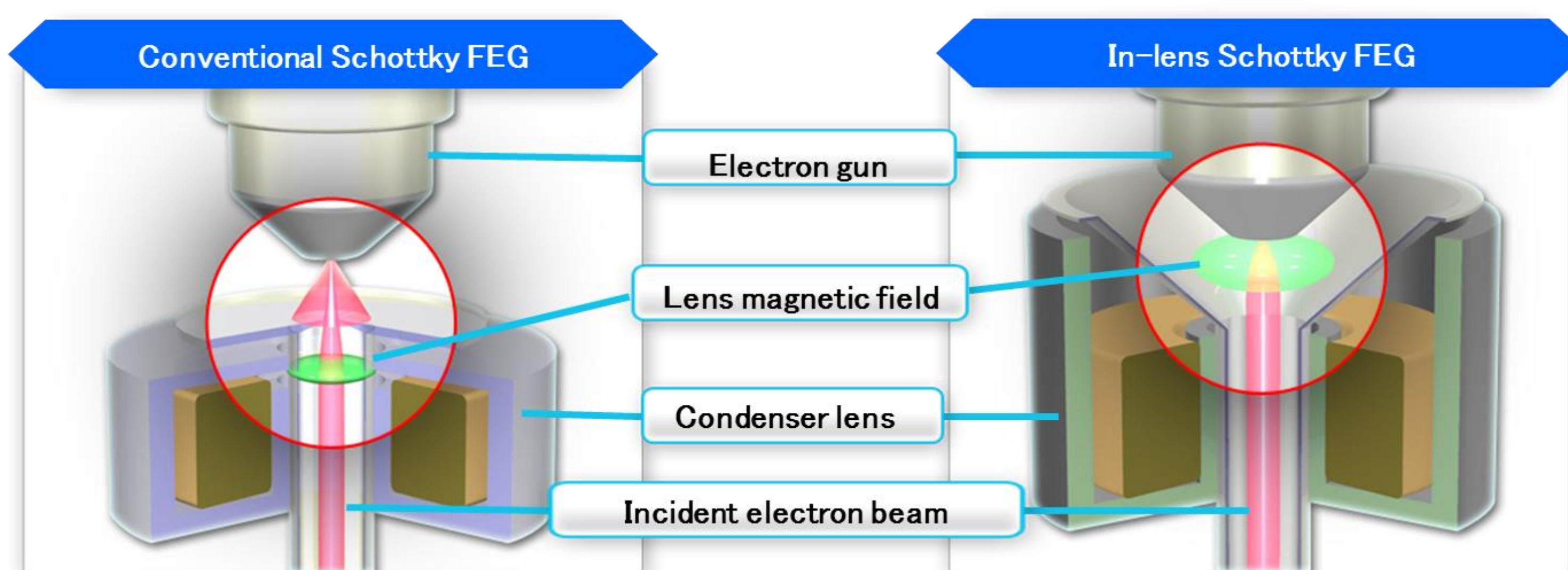
Electron gun : In-lens Schottky Plus field emission electron gun  
 Objective lens : Hybrid Lens

Specimen size: Maximum diameter : 170 mm

Principal attachment : EBSD , WDS , SXES  
 JEOL EDS: Fully embedded in SEM control software

## In-lens Schottky Plus FEG

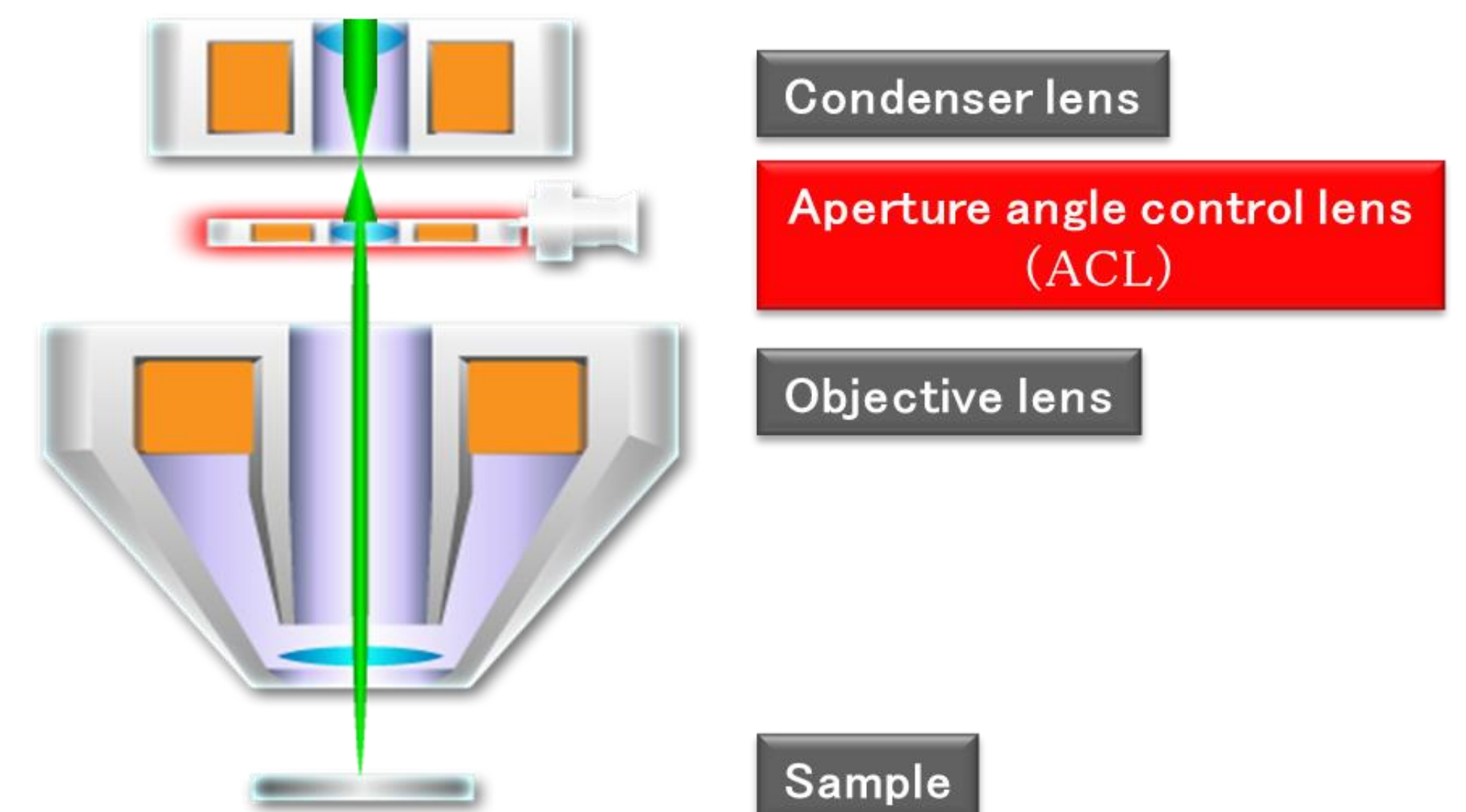
By integrating the electron gun and condenser lens, the electrons generated by the electron gun can be efficiently focused.



## Aperture angle control lens (ACL)

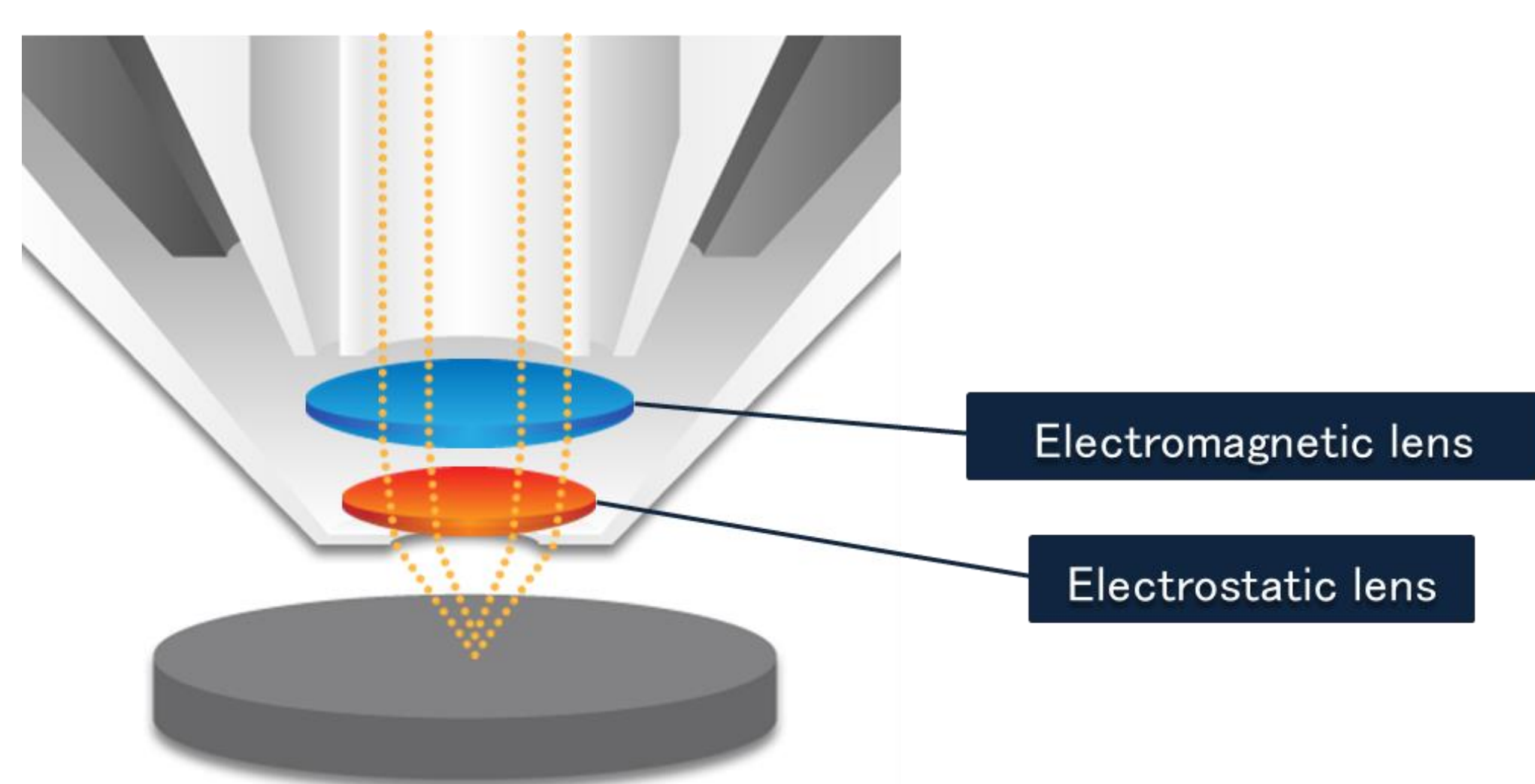
The aperture angle control lens (ACL), located above the objective lens, automatically optimizes the aperture angle of objective lens over the whole current range.

Even when the probe current is increased, ACL suppresses the spread of the incident electrons for always maintaining a smallest probe.

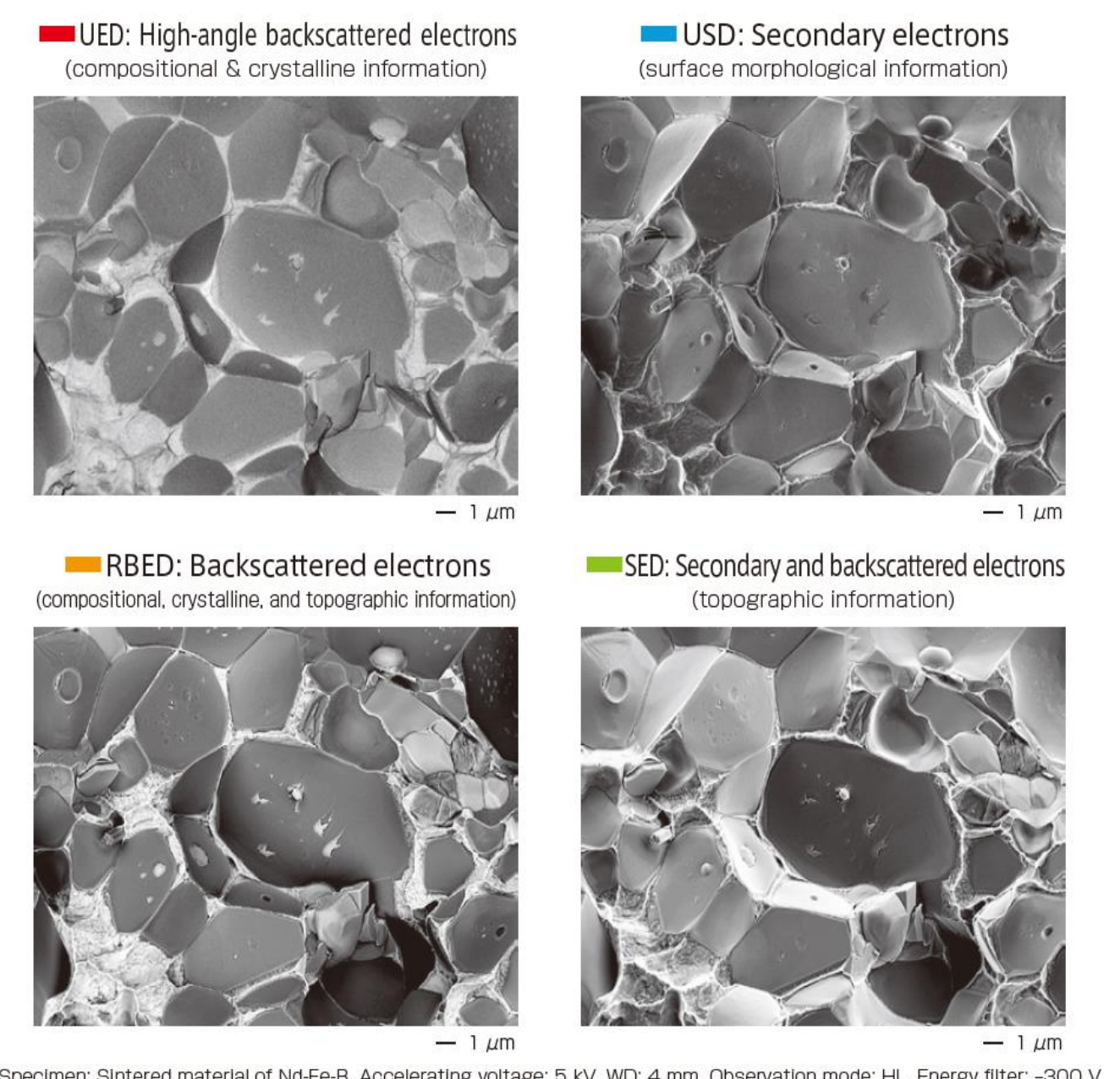
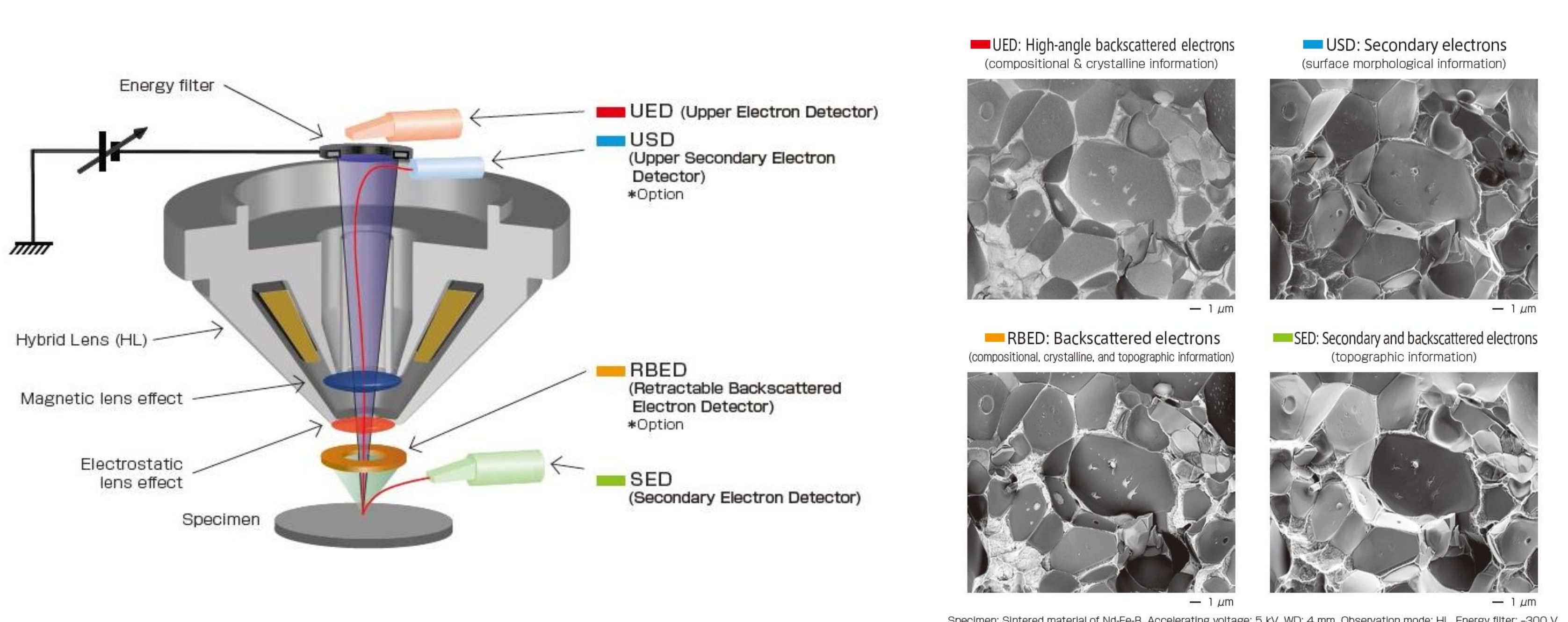


## Hybrid Lens

Hybrid lens is electrostatic/electromagnetic field superposed objective lens. This powerful lens suppress chromatic aberration and spherical aberration and enables observation and analysis of any specimens at ultrahigh spatial-resolution, including magnetic and insulating materials.

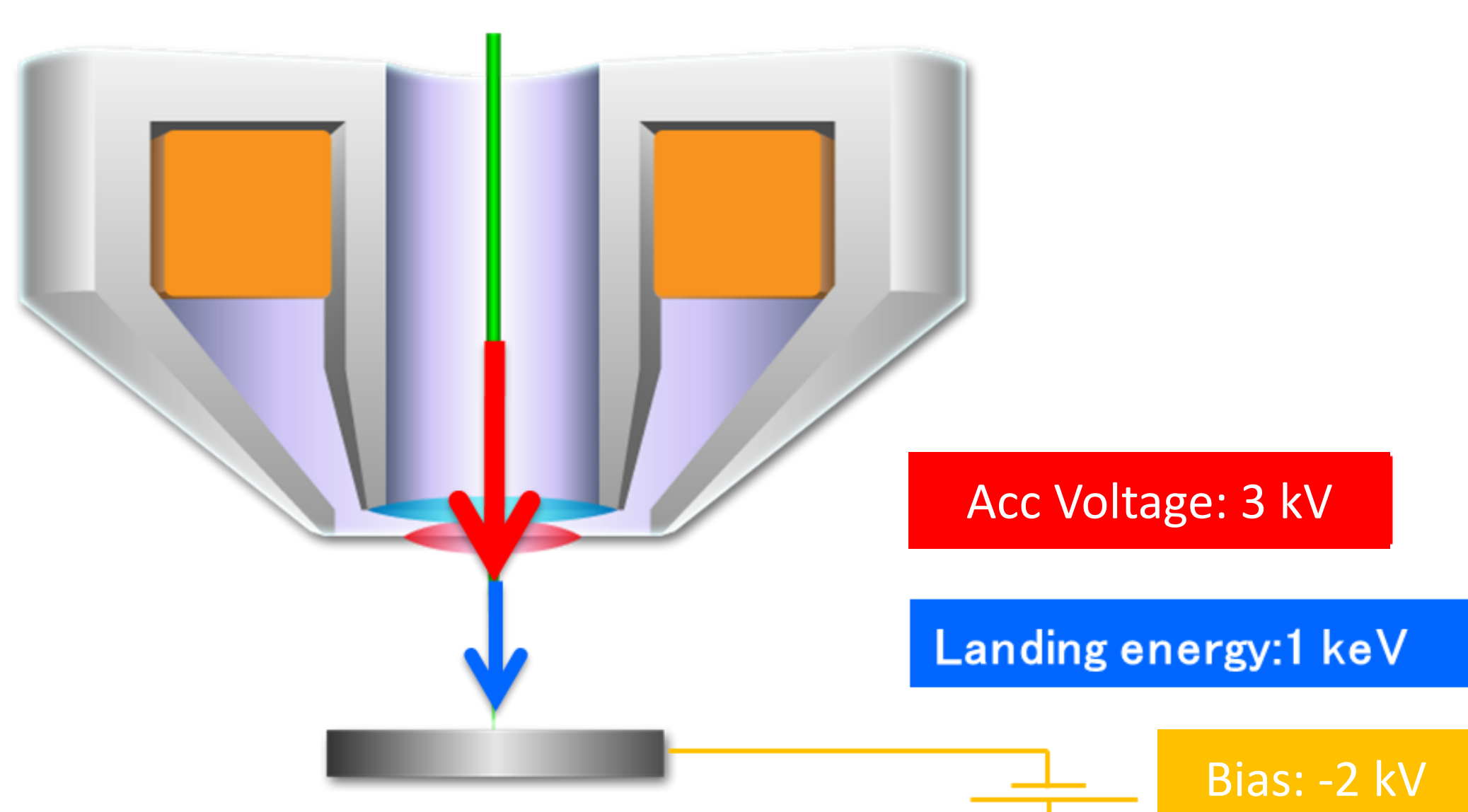


## Detection system



## Beam Deceleration (BD)

Applying a bias voltage of up to -5 kV to the specimen stage enables deceleration of the incident electron beam just before the specimen. This function improves the spatial resolution and signal-to-noise (S/N) ratio at low accelerating voltage.



## EDS integration

From Observation screen to Analysis detail display: JEOL EDS analysis starts immediately after a few clicks on the observation screen

