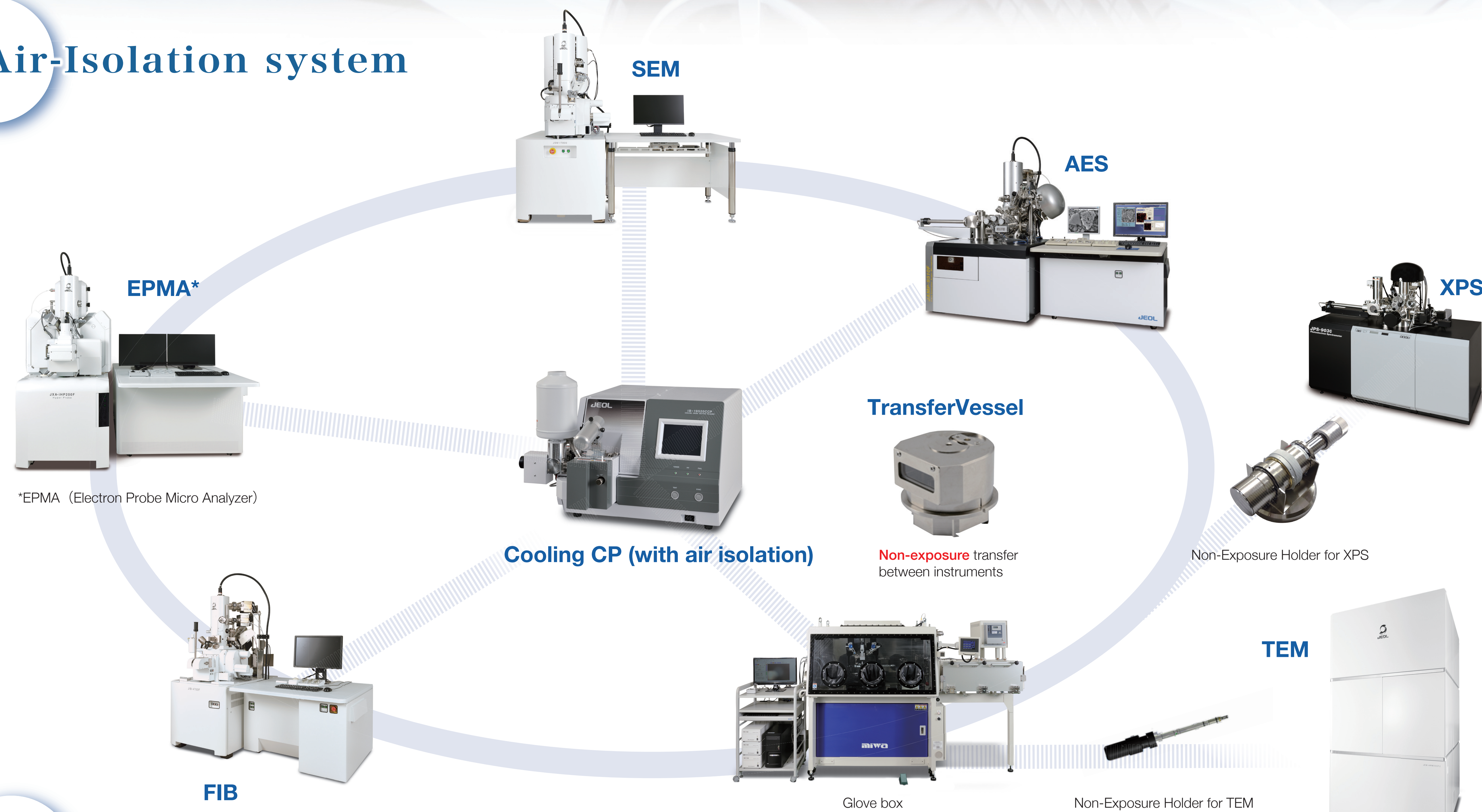
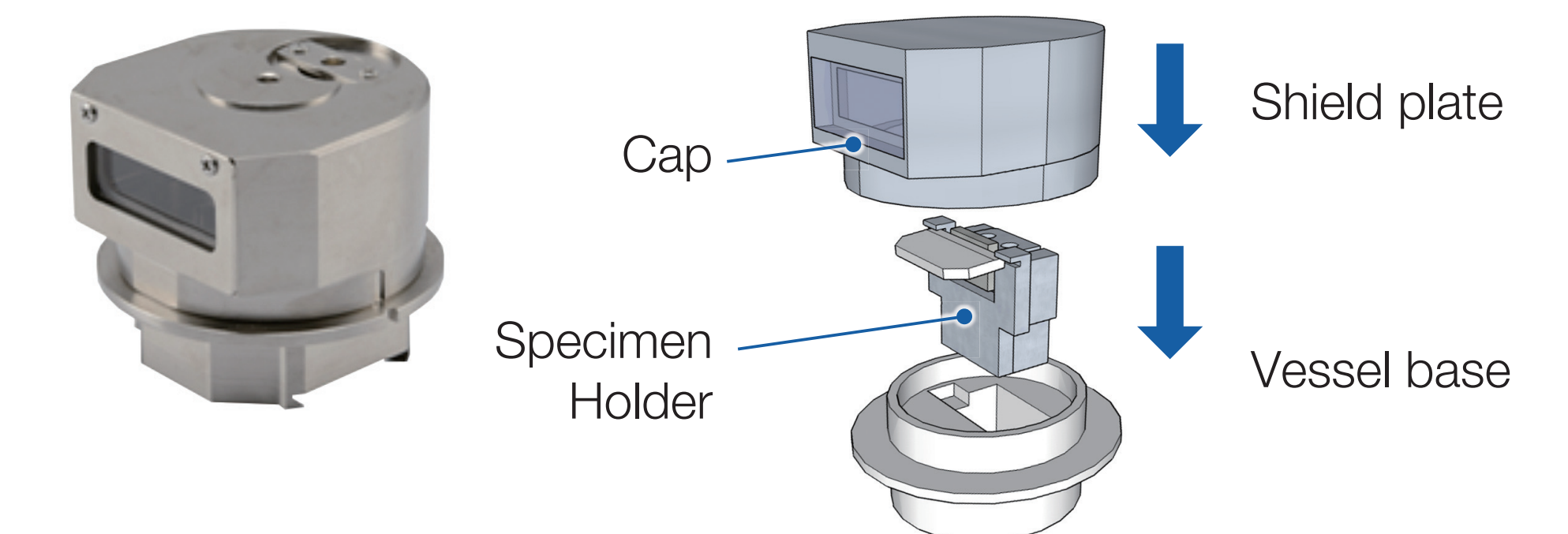


Ideal for LIB analysis - JEOL's Air Isolation system -

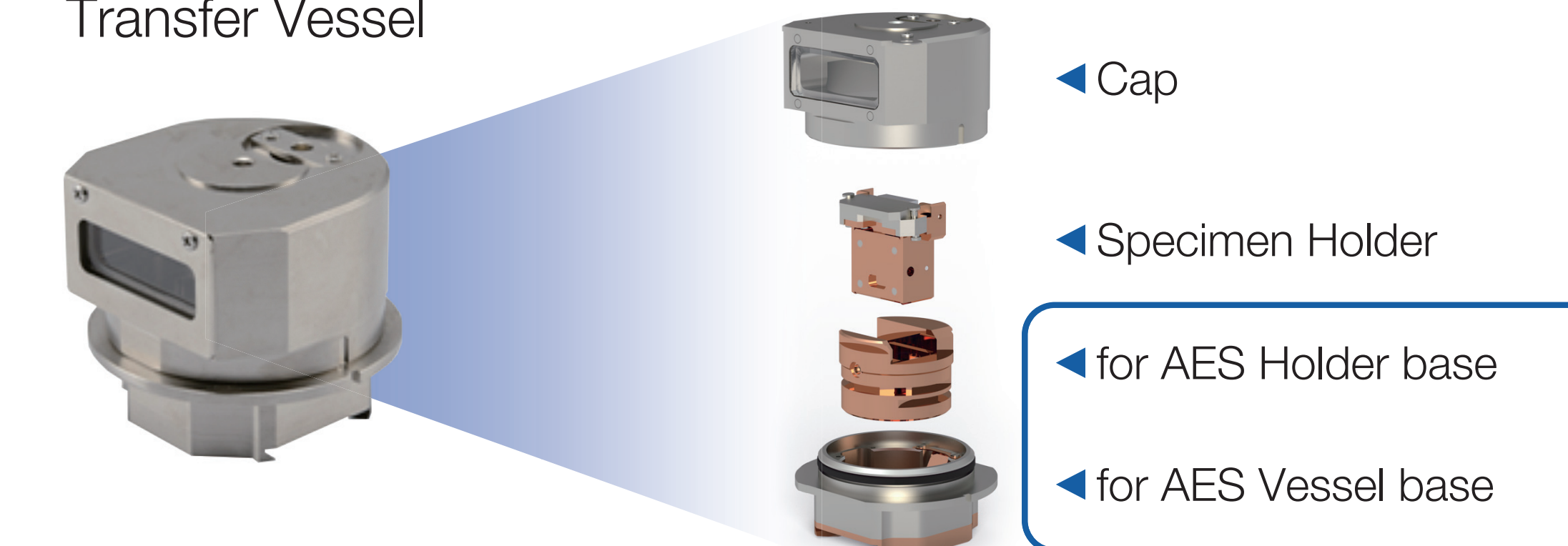
Air-Isolation system



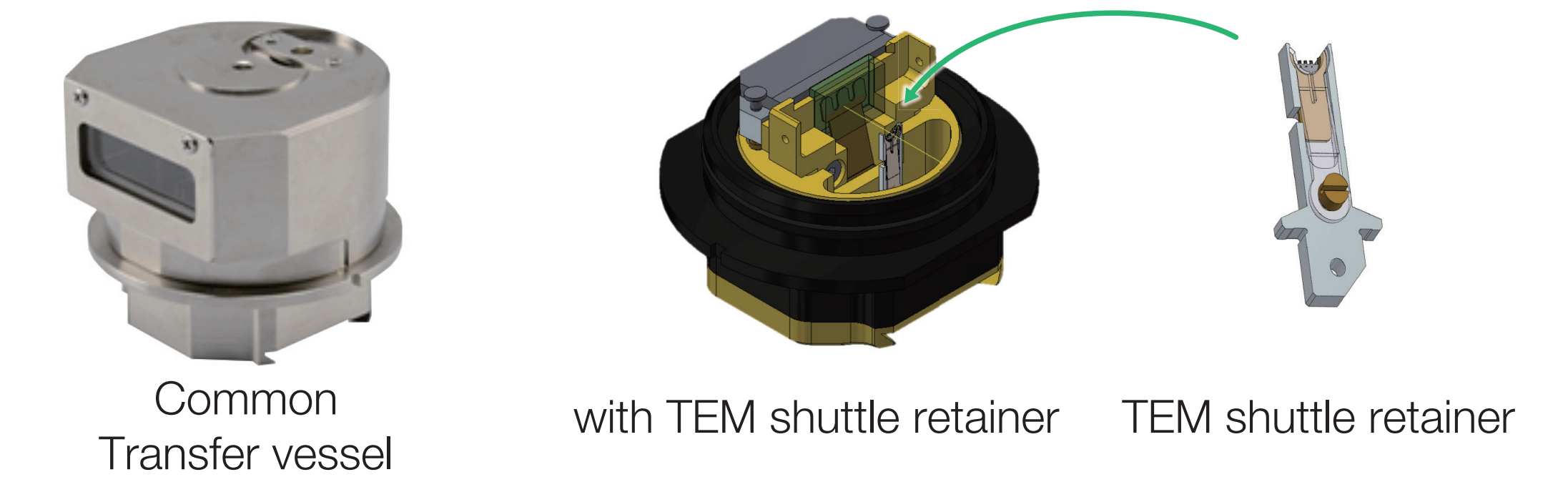
Basic model
For CCP / SEM / EPMA / FIB



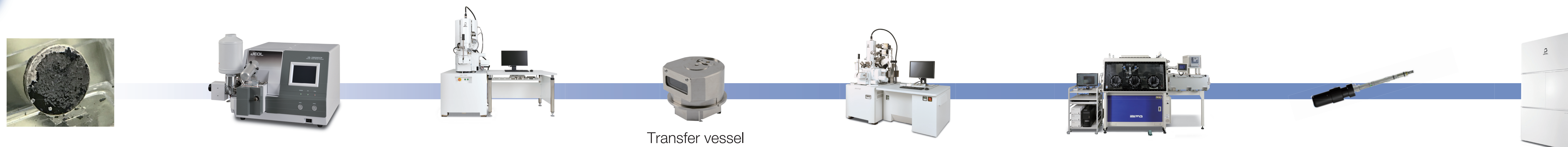
NEW **New model**
For CCP-AES / SEM / EPMA / FIB
Transfer Vessel



NEW **advanced model**
For CCP - FIB - TEM
Transfer Vessel



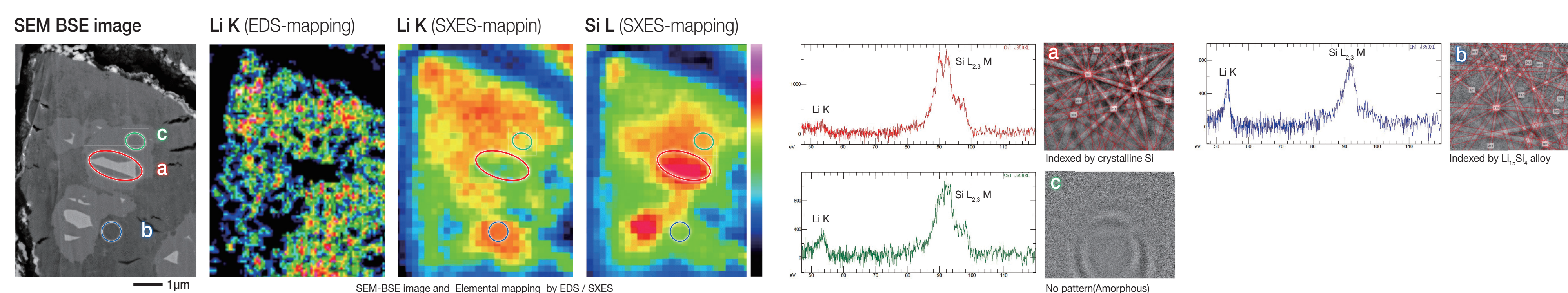
Application for Anode Silicon of LIB



Sample Courtesy: Prof. Atsunori Matsuda, Department of Electrical and Electronic Information Engineering, Toyohashi University of Technology.

Examples of processing/analysis using CCP-SEM link

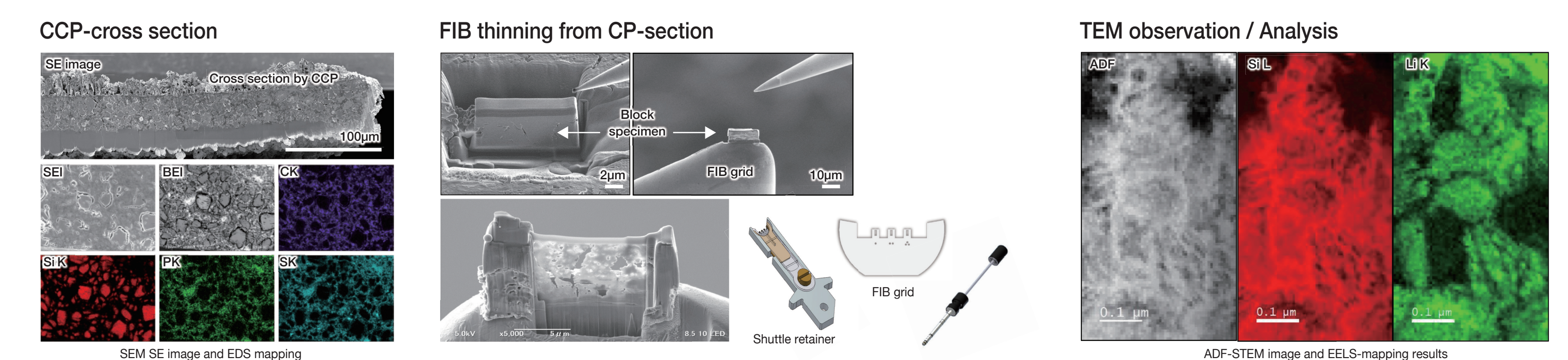
- I) The battery specimens processed by CP can be transported to the SEM without exposure.
- II) Various types of analysis such as SEM observation/EDS analysis/Soft X-ray Spectroscopy (SXES)/EBSD analysis can be performed without exposure.



EDS and SXES mapping of the same particles of anode silicon showed similar Li distribution. From the three different brightness points, differences in the chemical state of Si were inferred by SXES, and in combination with EBSD, Si crystalline regions, alloy crystalline regions, and amorphous regions were identified.

Examples of processing/analysis using CCP-FIB-TEM link

- I) CCP and FIB processing are possible with a common holder compatible with TEM retainers. Ultra thin TEM specimen processing is possible without exposure to the TEM observation position determined from the CP cross section.
- II) Since the TEM specimen is processed on the retainer, the TEM sample can be transported and observed without direct contact with tweezers.



In this workflow, silicon anode particles were thin-filmed by FIB directly from the CP-processed cross section. The specimen was mounted on a shuttle retainer for TEM, and the distribution of Li in the particles was visualized by TEM-EELS.