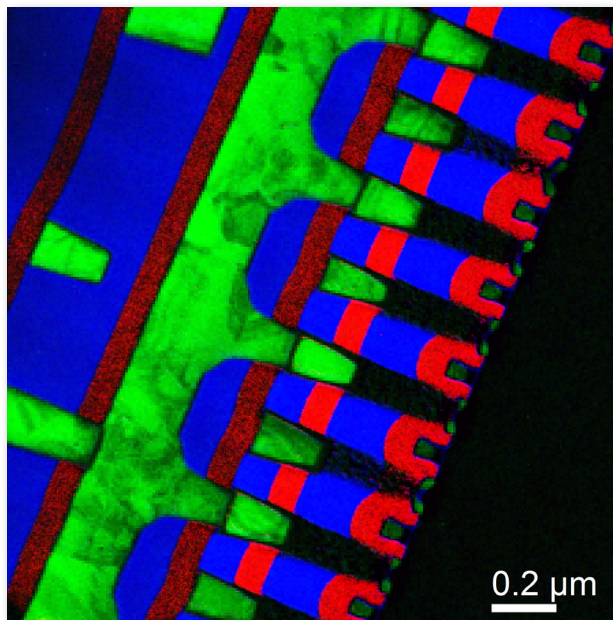




Advanced AutoFilter[®] Suite

Automated Multi-Element EELS and EFTEM Data Acquisition

The Advanced AutoFilter[®] Suite further extends the capabilities of your Imaging Filter by adding new acquisition modes to the AutoFilter[®] suite: RangeEELS, EFTEM MultiMap and Advanced EFTEM-SI. These modes provide the ability to set-up, perform and repeat common EELS or EFTEM based acquisitions covering multiple elements or features of interest as a single experiment. A new level of ease of use is provided via a sample-centric paradigm combined with fast routines for automatically optimizing acquisition parameters. These and other features significantly advance the toolset available for advanced EELS materials characterization.



The Advanced AutoFilter[®] Suite software is an extension to our industry standard AutoFilter suite, providing the ability to set-up and acquire EELS and EFTEM data over multiple features of interest in a single, automated acquisition. This is achieved by a number of innovations. A new setup paradigm allows experiments to be configured in a “sample-centric” manner. Powerful new routines for the dynamic optimization of key acquisition parameters enable automated acquisition without user intervention. Further, the ability to store and recall experimental configurations aids reproducibility.

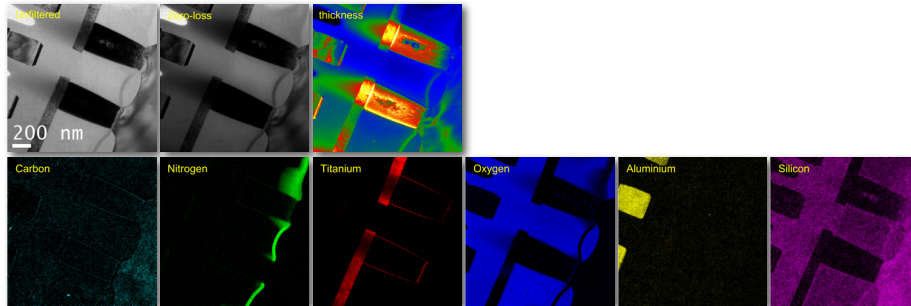
The suite supports three new acquisition modes which are commonly required for microanalysis:

RangeEELS allows extended spliced EELS spectra to be acquired over multiple energy regions. Auto-exposure and automated splice point determination are used to ensure optimal SNR throughout. Hence a single high quality EELS spectrum covering all features of interest can be captured in a single click.

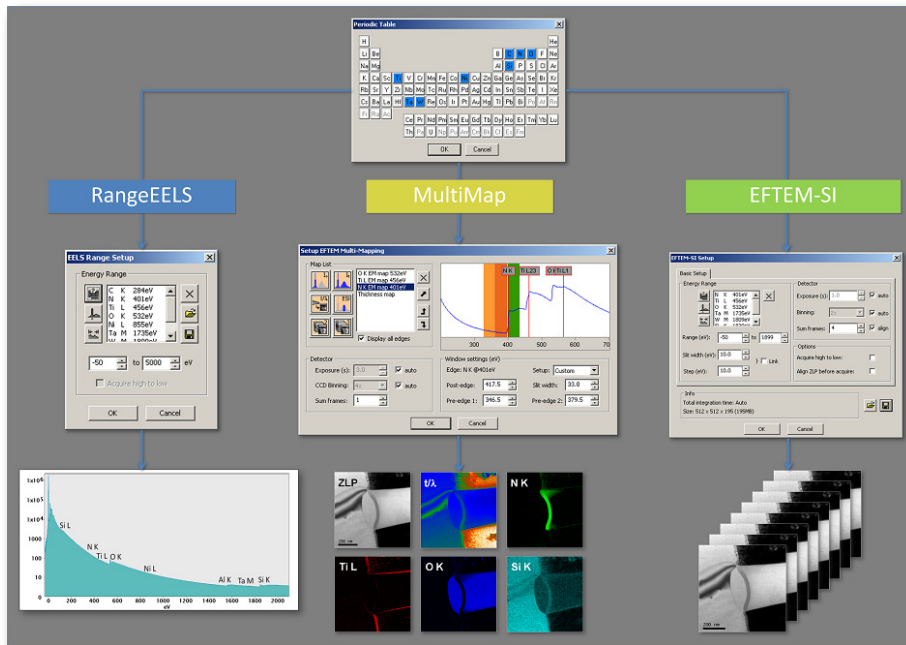
EFTEM MultiMap provides the ability to perform multiple EFTEM acquisitions (e.g. zero-loss imaging, elemental mapping) as a single experiment. Features such as auto-exposure and auto-binning ensure that each image is captured optimally, and acquired data is archived to file automatically for convenience. Hence acquiring multiple maps at optimal quality from a single region becomes a fast and simple task.

Advanced EFTEM-SI adds powerful new features to the EFTEM-SI package. Acquisition range can be set-up intuitively by element or feature for improved ease of use. Further, automatic exposure allows acquisition of extended EFTEM-SIs over large energy-loss ranges with optimal SNR maintained dynamically throughout.

Features	Benefits
Advanced acquisition modes	Three new advanced acquisition modes: RangeEELS, EFTEM MultiMap and Advanced EFTEM-SI.
Easy to use interface	Fast, fully automated data acquisition via an easy to use interface.
Intuitive experiment set-up	Sample-centric paradigm providing intuitive experiment set-up via periodic table.
Easy reproducibility	Store and recall experiment profiles for easy reproducibility.
Compatible with GIF Quantum [®]	Compatible with all Gatan GIF Quantum [®] imaging filters.
Compatible with in-column imaging filters	Compatible with in-column imaging filters, starting with Gatan Microscopy Suite [®] (GMS) 2.1.



Images and maps acquired as a single acquisition using EFTEM MultiMap. Auto-exposure and auto-binning were active for all maps, illustrating optimal acquisition of data from the intense zero-loss peak through to extremely weak signals such as the silicon K edge at 1839 eV loss. Total acquisition time < 10 min. Sample is a commercial semi-conductor device, captured using Gatan GIF Quantum® 965.



Schematic diagram showing the additional acquisition modes and user interfaces provided by the Advanced AutoFilter Suite: RangeEELS (left), EFTEM Multi-map (center) and Advanced EFTEM-SI (right). All three modes can be set-up following an intuitive sample-centric paradigm via a periodic table element list.

Ordering information

Model	Description
700.LS.702.90.32.1	Advanced AutoFilter® Suite; 32-bit
700.LS.702.90.64.1	Advanced AutoFilter® Suite; 64-bit

Please consult with your sales representative for product and ordering details.

Product Requirements

System Requirements	Suggested Configuration
<ul style="list-style-type: none"> DigitalMicrograph® (GMS 1.9.0 or higher) Gatan Imaging Filter; not compatible with models 865, 866, GIF 2002, and older models. Compatible with in-column imaging filters, starting with Gatan Microscopy Suite® (GMS) 2.1. EFTEM-SI package (for Advanced EFTEM-SI) 	2 GB RAM or greater

Note: Product requirements are subject to change.

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Primary Applications:

- TEM
- EELS
- EFTEM



Certified Quality Management System

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