APEX™ is EDAX’s intuitive and user-friendly 64-bit software program for the collection and analysis of Energy Dispersive Spectroscopy (EDS) data and the compositional characterization of materials. APEX™ ensures high-quality, accurate results and increased productivity with its easy to use interface, live-time graphical display, and simultaneous review mode analysis.

Ease of Use
- Intuitive, user-friendly interface for easy operation for all user levels
- Data acquisition and reporting in as little as one mouse click
- Automation of routine tasks for quick and easy analysis
- Single logon for ease of use or full account control through Windows® login or administrator mode

Customization
- Selectable color scheme to match the Scanning Electron Microscope (SEM) interface or user preferences
- Display configuration options to show data according to user preferences
- Ability to resize and arrange data windows according to user requirements

Simultaneous Live and Review Mode
In APEX™, a spectrum, linescan or map can be collected while users work simultaneously with existing data and generate reports, thus saving time and increasing efficiency.
Easy to Interpret Data
- Live-time spectrum display with Element ID showing which elements are found in the analysis
- Live-time dynamic element editing for the most accurate and efficient analysis
- Live-time quantification values shown together with charts or graphs for easy understanding of the measured composition

Smart Quant
- ZAF corrected spectral analysis for quantitative compositional information
- Quantitative analysis can be performed live-time during spectral data collection with no delay in the acquisition

Multipoint Analysis
- Survey mode for quick and easy point sampling
- Several locations on a sample can be marked and analyzed for efficient collection workflow
- Multipoint scan lists can be saved and recalled for automated analysis and quick and consistent data collection

Data Management and Reporting
- Ability to edit and export files in Microsoft® Word, Excel or PowerPoint, and PDF formats
- Project tree storage for seamless management of all data
- Project exports to zip and HDF5 file formats
- One-click saving of windows as .bmp, .jpg, .png, or .tif images
- Automatic data backups at user selected intervals or events for increased security

Advanced Reporting
- Reports can be generated directly from APEX™ Live mode for efficient data workflow
- Report Designer provides customizable templates for images, spectra, quantification results, text, logos, and sample information for the flexible presentation of data
- Data from multiple areas or samples can be sent to the same report for easy comparisons
- Multiple templates can be combined to easily display results according to user preferences
- Automatic report generator mode creates reports immediately at the completion of data collection
EDS Mapping

- Counts per second (CPS) map showing count rate quality at every pixel displayed to provide a CPS distribution and allow a unique view of map data to explain variations caused by surface features
- CompoMaps for separation of elemental contributions from overlapping peaks to individual elemental maps for more accurate representations of EDS maps
- Easy activation and addition of elements while mapping to simplify operation and inspection
- Selection from 40 color options for elements allows the easy creation of vibrant images during mapping
- Simultaneous mapping of multiple element lines (K, L, M)

Dynamic Element Mapping

- Addition and removal of elements while in Mapping and Linescan modes to show only elements of interest
- Ability to edit elements, element lines, and user selected regions of interest during map collection

Smart Phase Mapping

- No user setup required
- Spectra, elemental and phase maps collected automatically
- User-defined naming and color selection of phases
- Ability to predefine or reanalyze phases based on spectra
Linescan Acquisition

- Collection of spectra along a user-defined line with configurable parameters for efficient analysis of compositional gradients
- Linescan chart overlay is updated live on the image and scaled to the selected line for easy correlation of compositional data with image features
- Linescan can be used with drift correction in the APEX™ Advanced software package to avoid errors due to sample drift

Drift Correction

- Drift parameters automatically set for easy operation
- Correction frequency adjusted dynamically based on drift magnitude for robust correction performance
- Options to save drift images and define manual reference area for advanced correction needs
- Available in Spectrum, Linescan, and Mapping modes for quality data in all collection modes

Spectrum Match

- Optional feature allowing users to search through a spectrum library to find similar spectra
- Identification of unknowns simplified by comparing them to a group of potential candidates and reducing the complexity of finding discrepancies and similarities between spectra
- Ability for users to create their own spectrum library to be used for Spectrum Match
- Smart Materials and Minerals Library option enables the matching of a collected “unknown” spectrum to a library of reference spectra

Conclusion

The APEX™ software platform for EDS Systems provides ease of use, flexibility and customization. APEX™ gives users all the tools they need to increase efficiency and produce fast and accurate results from their analysis.

APEX™ Software Options

<table>
<thead>
<tr>
<th>Feature</th>
<th>Standard</th>
<th>Advanced</th>
</tr>
</thead>
<tbody>
<tr>
<td>APEX™ Suite</td>
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<tr>
<td>APEX™ Suite Enhanced</td>
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<td>Data Management &amp; Reporting</td>
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<td>✓</td>
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<tr>
<td>Smart Quant</td>
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<tr>
<td>Linescan Acquisition</td>
<td>✓</td>
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</tr>
<tr>
<td>Multipoint Analysis</td>
<td>✓</td>
<td>✓</td>
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<tr>
<td>Smart Touch w/Monitor</td>
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<tr>
<td>Spectra Survey</td>
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</tr>
<tr>
<td>EDS CPS Mapping</td>
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</tr>
<tr>
<td>Net Quant Map</td>
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</tr>
<tr>
<td>Maps Auto Enhance Processing</td>
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<tr>
<td>Spectra Auto Processing</td>
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<tr>
<td>Remote Licensing</td>
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<tr>
<td>Multi-user Capability</td>
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<tr>
<td>Drift Correction</td>
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<tr>
<td>Slide Control for motorized slides</td>
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<tr>
<td>Dynamic Element Mapping</td>
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<tr>
<td>CompoMaps</td>
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<tr>
<td>EDS Advanced Linescan</td>
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<tr>
<td>Advanced Reporting</td>
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<tr>
<td>Spectrum Match</td>
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<td>Smart Materials and Minerals Library</td>
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