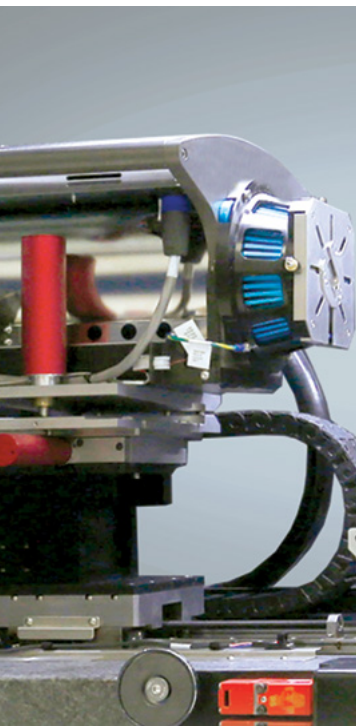# Case Study

How The Colorado School of Mines Uses ZEISS Predictive
Service to Secure Their Business Operations

ZEISS

Seeing beyond

How The Colorado School of Mines Uses ZEISS Predictive Service to Secure Their Business Operations

The Colorado School of Mines, USA, is a core life science imaging facility, researching samples across molecular and cellular biology, as well as biomedicine.

This lab is equipped with numerous microscopes including several ZEISS systems. One of these imaging systems is a ZEISS Xradia Versa which allows the lab to take 3D images of biological samples in their natural surroundings much without any special sample preparation.

Aside from the institute's own projects, the imaging systems are 'hired' by other labs and professors. As such, due to the demand placed on these systems, it's imperative that the microscopes are operational whenever they are needed. There's no room for downtime, as this leads to negative impacts on the University's research as well as its' revenue.

Maintaining systems, minimizing downtime

Matthew Black, one of ZEISS' experienced Customer Support Specialists in North America, provides technical support for the Versa and is the first line of support for Field Service Engineers.

Matthew received a notification via ZEISS Predictive Service that the Versa was behaving abnormally and encroaching on our acceptable limits. Though no critical failure had occurred, the abnormality was approaching ZEISS' safety standards, and after performing a remote diagnosis, Matthew decided that this should be investigated by a field service engineer.

Faster, more effective, resolutions

The ZEISS engineer arrived on-site armed with the imaging system information provided by ZEISS Predictive Service and was able to get straight to work. The engineer ran diagnostic checks to ensure the device was running smoothly in all other aspects and to confirm what Predictive Service had found.

Thanks to the combined actions of the on-site engineer and the remote team evaluating the data from Predictive Service, they determined that the imaging system's source needed to be replaced. Within a week of the engineer's visit, the source was changed. Image quality performed as expected and its

contrast, intensity counts, and other parameters were back to the expected values.

A future with greater peace of mind

The Colorado School of Mines was able to find a replacement faster, maintain uptime by reducing the technical evaluation time and providing key information to avoid unnecessary fixes thanks to Predictive Service. The ZEISS Team diagnosed the problem faster and remotely, reducing visits to the customer's sites to evaluate.

Predictive Service automatically comes as part of all newly installed XRM systems, working in the background where the customer wouldn't even notice the application is running. The solution automatically checks the health of performance critical elements of the system to ensure that it's running at peak performance.

"ZEISS service has on many occasions raised the bar for uptime and maintenance contracts in our materials characterization facilities here at The Colorado School of Mines Shared Instrument Facility. Their timely attention to our ZEISS Versa 520 maintenance and repairs is an amazing relief as we know that system down time and issues will not slow our research goals. Their predictive service approach which we've recently benefited from was able to repair the X-ray source before it was even a problem. Thank you ZEISS!"

— Kenneth (Xerxes) Steirer, Research Associate Professor, Colorado School of Mines

How Predictive Service works:

- Predictive Service comes pre-installed on every new X-ray Microscope as well as a number of our Electron Microscopy and Light Microscopy systems. You can choose to enable it and take advantage of the benefits available, or not.
- Once connected to your network, Predictive Service will monitor the health of your system – ensuring that it is running as effectively as possible.
- System condition information is shared between your microscope and ZEISS servers via a secure connection, ensuring the highest levels of data security. No image data or research information is accessed or shared.
- Predictive Service evaluates the performance of your microscope over time to ensure your microscope runs as efficiently and consistently as possible.
- If the system behaves abnormally, ZEISS engineers are alerted, can monitor the microscope's performance remotely, and then study the analytics data to understand what needs to be rectified. All this happens whilst you continue to conduct your research uninterrupted.

Further reading

- ZEISS Predictive Service Overview
- ZEISS Predictive Service: Discover how you benefit from our Remote Service Program Product Information
- ZEISS Predictive Service: Technology information for our Remote Service Program White Paper