Athena for Life Science 1.24

Release Notes

PN 1311045

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Technical Publications

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Revision Table

Revision	Date	ECO number	Description of Changes
1.0.0	19-April-2024		Initial version

Introduction

Purpose

This document provides a description of the Thermo Scientific Athena software package.

Audience and Scope

These release notes are intended for:

- Those who manage the configuration of Thermo Scientific Athena installations.

- Users of the Thermo Scientific Athena software.

This document describes the content and dependencies of the most recent and historic Athena releases.

This document does not describe the installation, licensing, or use of the Athena software.

System, Software and Configuration Compatibility

Although Athena software is backward compatible with a limited set of microscope software versions, it is preferred to update the microscope to the most recent compatible release to make use of all the latest features and improvements.

The tables below show the compatible and preferred software versions, and the system configuration compatibility.

Compatibility Matrix Between LS Applications

Athena	EPU	Tomography	EQM	Tomo Live	eCL	SDP
1.24.0	3.8	5.18	1.17.0	1.8.0	4.5.0	2.7+
1.23.0	3.7	5.17	1.16.0	1.7.0	4.5.0	2.7+
1.22.0	3.6	5.16	1.15.0	1.6.0	4.3.0	2.7+
1.21.0	3.5	5.15	1.14.0	1.5.0	4.3.0	2.7+
1.20.0	3.4	5.14	1.13.0	1.4.0		2.6+
1.19.0	3.3	5.13	1.12.0	1.3.0		2.6+

Athena	EPU	Tomography	EQM	Tomo Live	eCL	SDP
1.18.0	3.2	5.12	1.11.0	1.2.0		2.6+
1.17.0	3.1	5.11	1.10.0	1.1.0		
1.16.0	3.0		1.9.0			
1.15.0	2.14		1.8.0			
1.14.0	2.13		1.7.0			
1.13.0	2.12		1.6.0			
1.12.0	2.11		1.5.0			
1.11.0	2.10		1.4.0			
1.10.0	2.10		1.4.0			
1.9.2	2.9		1.3.0			
1.9.1	2.9		1.2.0			
1.9.0	2.9		1.2.0			
1.8.2-1.8.4	2.7		1.2.0			
1.8.0-1.8.1	2.7		1.1.0			
1.7.0	2.6		1.0.0			

Athena Portal Browsers Compatibility

- Chrome up to 116
- Safari 16.5 (18615.2.9.11.4)

Athena 1.24 - EQM 1.17 - Tomo Live 1.8 - eCL 4.5.0

Mandatory and Breaking Changes

Core
Description
There are no mandatory and breaking changes for this release.

New Features

Discovery-Viewer

Data Persistence

All the images displayed in the Discovery-Viewer are now always available even if EPU Session folder are remove on the offload storage. Automatic binning of the images is performed on-the-fly using Fourier cropping to reduce the size of the images and to improve the contrast on the micrograph:

- Atlas image: no binning

- Grid square image: binning 2

- Micrograph image: binning 4

EPU Quality Monitor

Reduce data size

To save space on the offload storage, the output of motion correction algorithm in EQM is set to uint16 instead of float32.

Cryo-Electron Tomography workflow

New automatic cropping algorithm in Tomo Live

In some cases where the pixel size was small and the thickness of the sample was high (> 200-250 nm), Tomo Live was cropping too much the 3D Reconstruction. A new algorithm has been developed based on entropy calculation to determine the optimal cropping thickness.

Embedded CryoSPARC Live

Falcon-C support

Embedded CryoSPARC Live supports 2k EER files generated by the Falcon-C camera on Tundra systems.

Platform

User Deletion

A user can now be deleted from the Athena portal on the User Administration panel.

Solved Issues

The following table lists the main issues this release fixes. Smaller corrections might have been excluded from this text to keep this detail as complete and useful as possible.
This list might also include problems that had been listed as Known Issues in preceding releases.

Athena Platform
Description
Deleting a Folder in the Athena gets stuck in the Jobs.
Breadcrumb not refreshing after deleting all elements displayed on the left panel.

Tomo Live
Description
In some cases, could not scroll to the bottom of the list in Tomo Run view.

Embedded CryoSPARC Live
Description
Add pixel unit next to Extraction Box size parameter in Athena Dataset Selection UI.
Remove the possibility of filling odd number in Extraction Box Size in Athena Dataset Selection UI.

EQM
Description
In some cases, could not scroll to the bottom of the list in the EPU Run view.
In some cases, the status of the EPU Run was incorrect on the Athena portal.

Known Issues

The most recent release of Athena has the following known issues.

This list does not include already reported known issues from previous historic releases.

Summary	Decision for Release	Workaround
Live-Export does not continue if the EPU Run is stopped and restarted in the middle of an acquisition.	Postpone	New EPU Run needs to be created if live export is needed
[Tomo Live] If browser refresh is pressed the central view displays all the data and not the filtered one.	Postpone	Re-apply the filtering.

Deprecated Features

This section lists features and capabilities that have been marked as deprecated.

Summary
There are no deprecated features for this release.