Definiens

Definiens XD 1.5

Release Notes

Definiens Documentation:

Definiens XD 1.5

Release Notes

Dear User,

Thank you for using Definiens software. We appreciate being of service to you with image intelligence solutions. At Definiens we constantly strive to improve our products. We therefore appreciate all comments and suggestions for improvements concerning our software, training, and documentation. Feel free to contact us via web form on the Definiens support website www.definiens.com/support

Thank you.

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1 Overview

Definiens XD is a comprehensive image analysis platform for multi-dimensional image analysis. It contains all the client and server software needed to extract intelligence from any digital image in a fully-automated or semi-automated way.

1.1 About Definiens XD 1.5

Definiens XD 1.5 is a minor update release that contains a range of useful improvements to the functionality of Definiens XD products. Also, included are numerous bug fixes and patches that improve the general reliability and performance of the Definiens XD software.

Definiens XD incorporates important updates to the following applications.

- Definiens Tissue Studio™
- Definiens Tissue Map
- Definiens Cellenger™

Customers using prior versions of the above applications are recommended to upgrade to this release of Definiens XD.

1.2 Key Features

Role-based Definiens XD clients for application developers and end users

- Definiens Developer XD
- Definiens Architect XD
- Definiens Viewer XD

Definiens Life Server® XD

- A scalable, server-based batch processing environment for multidimensional analysis.
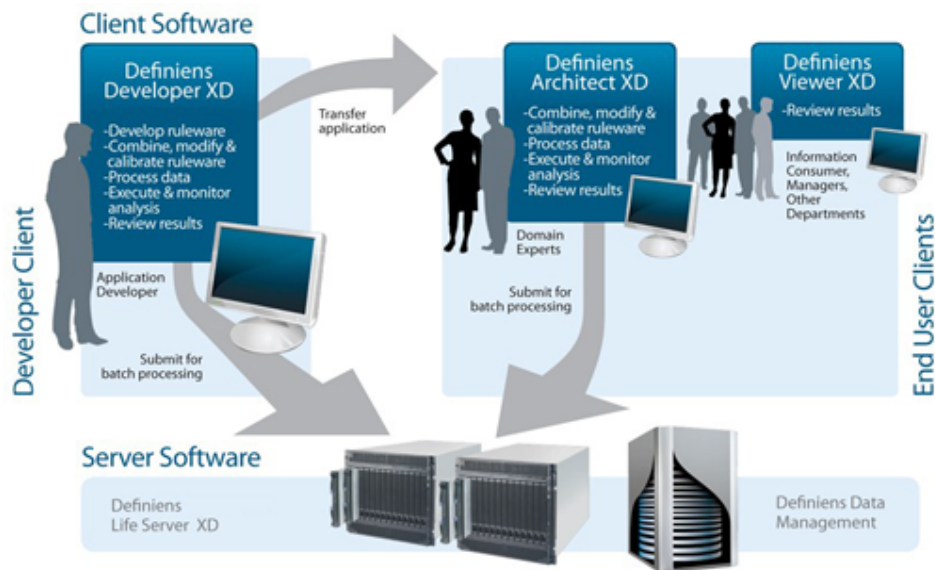
Figure 1.1. Definiens XD multi-dimensional image analysis software

Comprehensive multi-dimensional data import

- DICOM support
- Generic import builder tool
- Multidimensional data model
- Support for many multi-dimensional image formats

High performance analysis of complex multidimensional data

- Definiens Cognition Network Technology® for XD
- Object-based pixel processing
- Multimap support and regions to support flexible analysis workflows including multi-magnification, registration and comparison workflows

Full multi-dimensional object model

- 3D features and algorithms
- Object linking for time series support

Multi-dimensional image viewing

- Multi-planar projections (XY,YZ,ZX)
- Animations of time series data
- Comparison views of multiple images side by side
- Linked object selection and picking
- Independent or synchronized views

Sophisticated 3D visualization

- Surface rendering of classified objects
- Rotation, zoom, class selection, transparency settings and export
- OpenGL hardware acceleration

Integrated image registration

- Rigid and elastic transformations
- Landmark and non-landmark based schemes
- Automated, semi-automated or manual landmark identification

Comprehensive SDK for integration of XD image analysis into existing workflows or applications

- Automation API
- Data IO API
- Engine API

1.3 Highlights

Definiens XD 1.5 includes a range of significant improvements for all Definiens XD customers. These improvements include.

SDK Enhancements

- Improved Export Handling
- Create Customized Features

Latest Operating Systems Support

- Full support for Windows 2008, Windows 7
- SuSE Server 10 & 11
- RHEL 4 & 5

Import / Export

- DICOM Import representing Patient, Study, Series organization.
- OME-TIFF driver
- Export Image Object Thumbnails
- Flexible control of the export path
- 3D Shape file export support

Usability Enhancements

- Configurable Workspace Display
- Definable Mouse Movements

- Viewer Usability for Radilogy
- Centered Dislay
- Slice Linked Viewing
- Positionable Meta data
- 3D Shape visualisation

Algorithm Improvements

- Copy Map – 3D Subsets, Scaling Z and T
- Customised Algorithms (sortable parameters, descriptions)
- Remove Objects (Thresholds, Disconnected Objects)
- Line Drawing and Visualization

Integrated Release

- Brings together XD 1.3 LR and XD 1.2.2 for Tissue Studio and Non Tissue Studio Customers
- Delivers maintenance updates for Definiens Applications (Definiens Tissue Studio™, Definiens Tissue Map and Definiens Cellenger™)

Improved Stability and Performance

- Significant range of bug fixes that improves the stability and performance of Definiens XD products.

Please consult the Definiens Tissue Studio™ 2.1 release notes for a full description of the new features of Definiens Tissue Studio™ 2.1.

Please note: When using Windows 7 and Windows 2008 the default settings of the Windows firewall may prevent successful installation and usage. Please see the knowledge base article[1] for detailed information and an example script to update firewall configuration.

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1. https://definiens.zendesk.com/entries/225149-windows-2008-and-windows-7-firewall-configuration

2 Issues, Bug Fixes and Errata

2.1 New Features

Table 2.1. New features in Definiens XD 1.5

Category	Reference	Description
TissueMap ROI Detection	14662	Manual ROI Selection: Add Erase functionality
TissueMap ROI Detection	14693	Manual ROI Selection: Add Classify Remains functionality
TissueMap ROI Detection	14542	Manual ROI Selection: Add workspace navigation
TissueMap ROI Detection	14520	ROI Detection should use same resolution for all slides in one batch
TissueMap ROI Detection	14563	Tissue-Background Separation: Replace Magnification Buttons with slider
TissueMap ROI Detection	14509	Tissue-Background Separation: Resolution: alert for minimum setting + lower range for higher
TissueMap ROI Detection	14802	New and improved Tissue-Background Separation
TissueMap ROI Detection	15056	Manual ROI Selection (Select Segments): Added button "Load" to load previously stored selection.
TissueMap Cellular Analysis	14506	Classifications: Add exclusion of objects
TissueMap Cellular Analysis	15058	Nucleus Detection: Easier size selection with single radio button
TissueMap Cellular Analysis	15065	Membrane Detection for bright field images should do cell simulation in negative areas

Continues...

Category	Reference	Description
TissueMap Export	14042	Default Export should show real class names in %, not ROI 1, ROI 2 etc.
TissueMap Export	14060	Default Export: export corresponding images into the same folder with different names. Result screenshots that show the same region are exported into the same folder for quick review.
TissueMap Export	14571	Customizable Export: Domain statistics to be summed up per workspace
TissueMap Export	14781	Customizable Export: Domain statistics for small images and TMAs in summary files
TissueMap Export	15143	Customizable Export: Multiple feature selection.
TissueMap TMA	14653	TMA Grid View: Removed Brightness slider, cores are detected based on texture
TissueMap Configuration Workflow	15068–70	Revert all actions correctly if settings are changed, algorithms are executed or action is removed
TissueMap Configuration Workflow	15071	Prevent configuration of actions when workflow is invalid
3D/4D	14954	Implement support for 3D shape file visualisation.
3D/4D	15221	Extend Copy Map algorithm to 3D/4D subsets
3D/4D	15778	3D view needs to be configurable concerning the classes and transparency
Algorithm	14487	Add threshold parameters to "remove objects" algorithm
Algorithm	14806	Implement new algorithm which allows to turn exported result preview layer (from algo "export result preview") into classified image object level.
Algorithm	14838	Implement algorithms to save/restore project state (without ruleset)
Algorithm	14839	Copy Map: Parameter "scale relative to main map" should be available always
Algorithm	14894	Improved neighbour creation algorithm.
Algorithm	15868	Drawing and Visualisation of Lines

Continues. . .

Category	Reference	Description
Algorithm	14435	Extend existing algorithm with support for disconnected objects and new color based merging criterion
Algorithm	15252	Implement algorithm to hide classes in image view
Algorithm	15324	Algorithm: Create scene subsets: Allow definition of path
Algorithm	15755	Create a feature for checking if a specific feature is in a feature list.
Architect	14853	Architect: allow image as widget description instead of text
Architect	15299	Implementation of controllable standard mouse operations.
Architect	15307	New configurable toolbar.
Architect	15756	Add possibility to set a slider range by variable
Architect	15874	New Callback 'On Project Save' necessary to automate certain application actions.
Customised Algorithm	14450	Add ability to add descriptions to customer algorithms for better usability and documentation.
Customised Algorithms	14451	Customized Algorithm: Ability to sort Parameters
Data Management	14505	DM: Allow to save a ruleset without a description
Data Management	14508	DM: Menu items (Connect, Open Workspace/Project) should be always active
Export	15258	Implement export image object thumbnails algorithm
Import	14621	Introduce a feature that allows to read image layer metadata for ANALYZE Maldi data.
Import	14656	Pre-definiion Import for OME TIFF format.
Import	15272	Import of DICOM data to show patient, study , series , dataset hierarchy.
Import	15754	Read dynamic bit depth from metadata for Aperio, Olympus, Zeiss ZVI formats
Import	15887	Support Additional DICOM Metadata Tags *0028,1050 Window Center *0028,1051 Window Width"
Maps	15610	Library dependent disappearance of map1

Continues…

Category	Reference	Description
Processing	14837	Ability to start IPS Monitor Tool from the Manage Local Servers Dialog
Results	15810	New HTML based reports panel and related algorithms to add dynamic reporting into applications.
SDK	10676	Simplified export handling in API
SDK	14850	SDK: Explicit possibility to switch off Geocoding necessary
SDK	15555	SDK: make EAnalyze default for the job type
SDK	15592	Add ability to create custom feature.
SDK	15686	Ability to create a new map level without having a algorithm parameter. Getting a channel based on index and ability to remember and compare image objects per unique id"
Usability	14659	Add possibility to select ""active image layer″ in the Manage Variable dialog box. Image layer proxy created with this value should return first image channel used for image layer mixing."
Usability	14852	Automatic Center Image in Display for Radiology Data.
Usability	15193	Make feature templates available in multiple feature selection
Usability	15219	Slice based image view linking.
Usability	15311	Configurable Workspace Display
Usability	15786	Anatomical Orientation: support more placement position of text within image view. ``` * add new placement position for text in image view: * top-center * bottom-center ```
Usability	15926	Show Warning when saving old rulesets
Workspace	15785	Enable multi-scene processing for processed scenes. * allow creation of multi-scene project for processed scenes • multi-scene project doesn't inherit processing results from processed scenes • do not display warning or user question"

Users updating to XD 1.5 from XD 1.2.2 will also benefit from the following features that were previously added to XD 1.3 (Special release for Definiens Tissue Studio™ customers.)

Table 2.2. New features in Definiens XD 1.5

Category	Reference	Description
Algorithm	14557	Algorithm to support conditional processing based on user selection.
Algorithm	14570	Algorithm Read sub scene statistics extended to support subfolders to provide greater control of summation of statistics.
Analysis Builder	14501	Process on change event added to all widgets.
Export	14625	Added number to identify the number of items which have been summed to generate a statistic.
Export	14515	User settings in export templates are saved when saving .dax file.
Export	14558	Export of TopSceneName and Subset name enables user to cross reference export results to processed image.
Export	14568	Merge statistics extended to allow sub folders to be scanned. This enables object statistics to be provided per slide rather than tile.
Image Proxy Server	14486	New Image Proxy Server monitoring tool to see the status of image proxy processing.
Manual Editing	14553	Support easy to use manual editing of an existing annotation.
Manual Editing	14554	Extensions to allow the Architect UI to control the manual editing status.
Manual Editing	14555	Classification of polygons and display colour associated with class.
Manual Editing	14672	Algorithm to support class assignments to polygons
Polygons	14663	Implemented cancelling functionality for manual polygon editing.
Polygons	14673	Allow to display vector layer polygons in image view
Processing	14527	Improved memory management and reliability when getting close to memory boundary
Thematic Layers	14685	Provide control to automatically load thematic layers if they exist. For example if a user has made annotations and returns to a workspace these can be loaded by default.
TMA	14674	Features can be added dynamically to the feature list. For example supports export TMA Annotations from rule set.

Continues...

Category	Reference	Description
TMA	14316	TMA annotations extensions to enable automated loading of annotations via customized import.
TMA	14653	Removed unnecessary threshold dropdown brightness from the TMA Grid view.
Usability	14493	Tool tip added to server status to make it easier to understand the meaning of the visual server status indicators.
Usability	14502	When the user moves the mouse close to the image border the image is auto-panned to aid usability.
Usability	14541	Implemented magnetic polygon drawing using contrast to improve usability of manual editing.
Usability	14556	Show slide algorithm supports simplified slide navigation.
Usability	14559	Context specific help for sophisticated operations such as grid matching.
Usability	14591	Resizable variable selection dialog.
Export	14781	Customizable Export: Domain statistics for small images and TMAs in summary files.
Export	15143	Customizable Export: Multiple feature selection.
Import	14942	Connector: Aperio driver extension for .afi files (Aperio ScanScope FL)
Import	14844	New JPG2000 driver for large file support.
Import	14999	Customized Import for flexible import of data and TMA metadata
Usability	11896	Name of solution is displayed in header of Analysis Builder

2.2 Bug Fixes

Table 2.3. Bugs Fixed in Definiens XD 1.5

Category	Reference	Description
TissueMap Export	14561	Statistics of project exports are based on per object data, not per tile data
TissueMap ROI Detection	14388	Xenograft ROI Detection: "Only inside ROI" does not work in some cases

Continues...

Category	Reference	Description
TissueMap ROI Detection	15938	Xenograft host threshold is not working correctly
TissueMap Cellular Analysis	15086	Nucleus Detection: Improve results for dense nucleus clusters
TissueMap Cellular Analysis	15106	Cell Simulation grows with wrong distances if previewed on multi-image project
TissueMap Export	15805	Calculate HistoScore based on percentage of all objects, not based on positive only
TissueMap TMA	16103	TMA Grid View: Extend maximum size of Show dropdown list
TissueMap Processing	16065	Error message: no subscene has specified statistics exported
Cellenger Data I/O	15981	Cellenger does not work with project units other than pixels. This has impact on all detection algorithms.
Tissue Studio	15545	Slow image list update, unresponsive GUI
Tissue Studio	15857	Tissue Studio: Menu items in main menu disappear
Tissue Studio	15914	Reproducible CRASH on TMA "Detect Tissue"
Tissue Studio	15919	"Analyze all images" and "Reset Workspace" buttons do not work
Tissue Studio	15963	TMA slide is processed multiple times if cores are selected for processing
TMA	15765	TMA annotations are shown in black color on black background
Algorithm	12704	Algorithm (Linux): WSP: submit scenes: process percentage of tiles: selection behaves differently on windows and Linux.
Algorithm	12764	Workspace Processing: Algorithm: create scene subset/copy is not executed in subroutine
Algorithm	13589	Algorithm: create scene copy: exclude other image objects is ignored
Algorithm	14396	Algorithm: Export Statistics: IOD is ignored for project statistics
Algorithm	14421	Mean Values for disconnected images objects with 2 pixels are computed wrong

Continues...

Category	Reference	Description
Algorithm	14545	
Algorithm	14610	Writing to a temporary layer of a saved project is not possible.
Algorithm	14807	Synchronizing maps: can cause a no-object-border
Algorithm	14848	CRASH: When exchanging cust Algorithm
Algorithm	14857	Algorithm: Domain Level was deleted! error Message (using a tmp level in a customized algorithm on a DICOM Series)
Algorithm	15423	Copy map: Scale direction: Plane only: does not work with Compatibility mode
Algorithm	15623	Algorithm: Contrast Split Segmentation: "Execute splitting: No" doesn't work
Algorithm	15721	Down sampled polygons are not chessboard-segmented correctly
Algorithm	15894	Crash: copy map in all directions with rescale 50% on 4D project
Algorithm	15913	Algorithm: Copy Map: uneven number of slices is treated differently as uneven number collumns,rows upon rescale 50%
Algorithm	12694	Algorithm: submit scenes: cannot remove parameter set
Algorithm	14987	Z center, wrong values - chess board segmentation
Algorithm	14988	Region Cut algorithm doesn't preserve 3D object, if used on non-pixel level
Algortihm	13859	Ruleset Development: Loop is only executed once, although while condition still holds.
Algorithm	14438	Multiresolution-Segmentation changes objects not part of Domain
Cellenger	15727	Processing with Cellenger Library not working
Clients	14513	Memory leak in clients.
Clients	14880	Restore project state doesn't restore assignment of layer aliases
Clients	14982	Rendered 3D objects don't update the Image Object Information

Continues...

Category	Reference	Description
Clients	15253	CRASH: Save Rule Set after deleting Layer alias and/or Layer variable
Clients	15598	GUI: Window Leveling Dialog
Clients	15608	MPR-View: Pixel Selection not updated in YZ-Projection
Clients	15609	Sorting by remarks does not work
Clients	15667	Crash: select MPR View
Clients	15747	Crash while closing Developer
Clients	16011	Slice Scrolling: too slow
Customised Algorithm	14774	Non-integer dimensions not supported in customized arithmetic calculation
Customized Algorithm	15629	Parameter Transfer to Customized Algorithm doesn't work with Scene Features
Customized Feature	14972	Customized Feature YCenter(orMaxorMin)/Map Size in Y is not correct in 3D
Customized Import	14488	Improve error msg for customized import when reimporting data again.
Customized Import	14846	Customized Import: cannot use '=' in search string
Customized Import	14847	Improve 3D customized import to work with plates/wells
Developer	15117	Classified as Class Variable does not work if unclassified is assigned to Class Variable
Developer	15243	Creating a ruleset in Developer using Tissue mode will add default layers
Developer	15566	Feature View: Active Pixel: not displayed without image objects
Developer	15749	Non working space key in process comment box
Developer	15181	Process Tree: strange behavior when there is a DLL with algorithm without GUID
Export	14780	Export: Object Statistics report can cause unwanted files/folders to be created

Continues...

Category	Reference	Description
Image Proxy Server	14971	Import of Leica *.lif files can exhibit performance problems when used with IPS.
Image Proxy Server	15038	Resource leaks in IPS can cause instability after running for long period.
Image Proxy Server	15041	IPS Tools missing from deployments.
Image Proxy Server	15511	IPS Workspace conversion not working when using Flex files.
Import	12689	Project: 3D data: open 2 .dsif files while using geocoding causes CRASH
Import	14718	3D Import of DICOM data: MRI scan with metadata slice distance = 0
Import	14859	Wrong equalization for signed 16bit images
Import	15559	Analyze Driver: HDR/IMG images with unsigned 16 bit values
Import	15568	Import of Mirax file loads overview image only
Import	15873	Geocoding Dicom Cartesian Error
Import	15875	Driver:Latest Evotec Flex (1.1.1.8) files do not open in Developer XD
Import	16043	DSIF images: Metadata features are not working correct if DSIF file has cached metatags inside
Import	16066	Connector: Olympus dotSlide: Black background
Import	16071	Developer XD: loading OME TIFF files: CRASH
Import	16099	Analyze format load error "Project of zero size cannot be created"
Installation	15115	Problems with Virtual Store on Windows 7
Installation	15404	Confusing button name in save activation request dialog for license server installation
Licensing	15374	License borrowing tool crashes under Windows 7
Licensing	15995	Flexnet: License Checkout does not work with certain VPN connections on Windows 7.
Manual Editing	15029	Algorithm/Toolbar polygon cut/cut object manually gives wrong segmentation result

Continues...

Category	Reference	Description
Processing	14813	Error reading locked .csv file
Processing	15340	Linux Suse10.2 file size limit of 2GB using XFS file system
Processing	15891	Unhanded exception CRASH on server
SDK	14817	SDK Samples do not compile on VS 2008
SDK	15043	Linux DIACMDClient ignores no export in the ruleset
SDK	15211	DIAMkWksp.exe not working using Aperio import
SDK	15266	DIAMkWksp.exe not working if folder contains additional files (not only the image data).
SDK	15547	SOAP API: C wrapper for SOAP SDK does not work
Thematic Layers	15984	Thematic raster data: value "value" can't be used as feature

Users updating to XD 1.5 from XD 1.2.2 will also benefit from the following additional bug fixes that were previously added to XD 1.3.

Table 2.4. Bugs Fixed in Definiens XD 1.5

Category	Reference	Description
Algorithm	14547	Multiresolution segmentation may crash in certain special cases.
Algorithm	14676	Problem with throw and catch processing when using multiple levels.
Algorithm	14633	Performance of coating is poor in the circumstance that a super object has very large numbers of children.
Algorithm	14478	Subroutines: Cannot use "S" for naming because of shortcut
Algorithm	14678	In certain circumstances Quad tree segmentation crashes for 3D data sets due to over allocation of memory.
Client	14483	Typo in the name of the Manage Server Dialog.
Client	14607	Crash when selecting new thematic layer from annotation
Client	14577	Crash when clicking in empty viewer after adding actions
Client	14609	GUI sorting problem mixes up thematic layer settings.

Continues...

Category	Reference	Description
Client	14574	A client crash may occur when "customized algorithm" tab is active in process tree and project is being closed or rule set deleted.
Export	14453	Export view can crash when reading slice metadata.
Export	14683	Export not merging project statistics files correctly when merge is specified in the export template.
Image Proxy Server	14482	Tissue Gnostics driver is missing from the Image Proxy Server installation.
Image Proxy Server	14528	Image Proxy Server with Linux GRID: Mirax Hamamatsu or TissueGnostics are not included in the configuration.
Image Proxy Server	14580	Slow performance when processing Mirax slides with the Image Proxy Server.
Image Proxy Server	14593	Server jobs still use Image Proxy Server even after removing Image Proxy Server reference from the workspace.
Image Proxy Server	14723	Image Proxy Server. Larger erdas image not processed by image proxy server resulting in long load times for the image.
Import	13134	Problems importing older Mirax slides with 24bit bitmap and longer folder paths to images.
Import	14442	Import of Aperio Immunofluorescence files not working properly due to single channel 1 bit depth images.
Import	14462	Crash reading certain Baccus Web slides where header information contains unexpected duplicate entries.
Import	14479	Some Evotec Flex files may not load correctly.
Import	14484	Abnormally long TMA Processing Times on Mirax Slides
Import	14489	Tissue Gnostics image does not get segmented at bottom 1/3.
Import	14496	Missing 3D scene definition information causes some Flex 3D images to be imported incorrectly.
Import	14540	Mirax: Processing on the GRID is hanging due to missing files in the Image Proxy Server installation.
Import	14612	3D DICOM import problems when importing DICOM file containing original and annotated slices.
Import	14639	Loop when importing regions scanned with Olympus dotSlide.

Continues...

Category	Reference	Description
Import	14551	ZVI images can be imported with extraneous layers. Driver needs to be aware of the metadata tag ("Multichannel Colour") containing a bitmask of channels (colours) which are really used.
Import	14632	Driver 8png is not loaded due to missing configuration file entry.
Installation	14492	Local Server installation can interfere with existing GRID when installed on the same machine.
Job Scheduler	14448	Rare crashes in 1 in 60 jobs.
Job Scheduler	14491	Disable local server does not stop the Job Scheduler.
Linux	14485	Linux DIAEngineService does not start due to missing shared libraries.
Processing	14567	Definiens eCognition server is not compatible with the special windows XP 3GB extension which is deigned only to be used with servers running exchange. This is now documented.
Tissue Studio	14714	Added image layer mixing option to view menu.
Vector Handling	14631	Polygon drawing: Wrong node is moved for polygon holes inside other polygons
Viewer	14445	MPR view (3D toolbar) message consol gives error message:CDIAClientView::OnKillFocus/Invalidate()
Viewer	14618	Active Pixel: incorrect
Workspace	13633	Project statistics in workspace not displayed correctly
Workspace	14539	Thumbnails: Empty thumbnail view in workspace window for ECW data caused by lack of overview generation.
Import	15460	Olympus dotSlide import crashes
TMA	15335	TMA Grid View: Layout view not in sync with chosen layout
TMA	15465	Load Annotation imports extension from file name
Usability	14784	Unnecessary features displayed in Image Object Information
Usability	14934	Polygon selection: two polygons are deleted after pressing DEL key.
Usability	15334	Brush selection: change of brush size does not have any effect if in selection mode.

Continues…

Category	Reference	Description
Usability	15290	Image Object Table: all views show same map on click on row in table.

2.3 Known Issues and Limitations

Table 2.5. Issues in Definiens XD 1.5

Category	Reference	Description
TissueMap	16179	Known issue: Average Membrane/Cytoplasm ratio may have insignificant value due to outliers with very high and or negative outliers.

2.4 Errata

None

3   Additional Information

For additional information please contact support@definiens.com

3.1   Upgrading to Definiens XD 1.5 from previous versions of XD

Upgrading Definiens Client Products

You may choose to install updated versions of the client software alongside previous versions. During installation, please name the folder and program menu to distinguish clearly between different versions. If you wish to install multiple XD 1.5 clients please ensure you set the local server service to start manually. This will allow you, if you are using the local server, to control which version of the local server you are using.

Upgrading Your eCognition Server

You are recommended to update your GRID to XD 1.5 as there is a bug fix to the Job Scheduler that corrects potential incorrect multiple checkouts of the Tissue Studio™ Library license. Please note that previous installations should be removed as installing multiple versions of the GRID on the same computer will cause processing problems.

3.2   Further Information

For detailed information regarding the new capabilities of Definiens XD products, please refer to the respective user guides. These also contain difference between XD and the 2D product range to assist with planning upgrades.

The Definiens service team has built extensive experience planning migrations and upgrades for our customers. We recommend you consult with the Definiens service team before planning a migration, who will be happy to provide insight into the migration process.

Acknowledgments

Portions of this product are based in part on the third-party software components. Definiens is required to include the following text, with software and distributions.

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ITK Copyright

✣

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