

# Definiens

# Tissue Studio<sup>®</sup> 3.0.1

**Release Notes** 

DEEPER INSIGHTS FASTER RESULTS BETTER DECISIONS

www.definiens.com

#### **Definiens Documentation:**

Definiens Tissue Studio® 3.0.1

#### **Release Notes**

#### Imprint

© 2012 Definiens AG. All rights reserved. This document may be copied and printed only in accordance with the terms of the Frame License Agreement for End Users of the related Definiens software.

Published by:

Definiens AG, Bernhard-Wicki-Straße 5, 80636 München, Germany Phone: +49 89 2311 800 • Fax: +49 89 2311 8090 Web: www.definiens.com

#### 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.

#### Legal Notes

Definiens<sup>®</sup>, Definiens Cellenger<sup>®</sup>, Definiens Cognition Network Technology<sup>®</sup>, DEFINIENS ENTERPRISE IMAGE INTELLIGENCE<sup>®</sup>, Tissue Studio<sup>®</sup> and Understanding Images<sup>®</sup> are registered trademarks of Definiens AG in Germany and other countries. Cognition Network Technology<sup>TM</sup>, Enterprise Image Intelligence<sup>TM</sup> and Definiens Composer Technology<sup>TM</sup> are trademarks of Definiens AG in Germany and other countries.

All other product names, company names, and brand names mentioned in this document may be trademark properties of their respective holders.

Protected by patents EP0858051; WO0145033; WO2004036337; US 6,832,002; US 7,437,004; US 7,574,053 B2; US 7,146,380; US 7,467,159 B; US 7,873,223; US 7,801,361 B2.

#### **Regulatory affairs**

Under certain circumstances the solutions and applications developed using Definiens Developer XD may fall under specific regulations (e.g. medical device or IVD regulations) in your country. Please ensure that you check and follow local regulations before using or taking your solution or application into commerce. If you require specific data about Definiens Developer XD, please contact your dealer or our sales staff.

\* \* \*

Typeset by Wikipublisher

All rights reserved. © 2012 Definiens Documentation, München, Germany

Day of print: 13 January 2012

# Contents

2	New	Features, Bug Fixes and Errata						
	2.1	New Features						
	2.2	Bug Fixes						
	2.3	Known Issues and Limitations						
	2.4	Document Errata						
3	Additional Information							
	3.1	1 Solution Files from Previous Versions						
	3.2	Using Manual Selections from TissueMap 3.1 in Tissue Studio						
	3.3	Contact						

# **1** Overview

Definiens Tissue Studio<sup>®</sup> is an image analysis product that provides functionality to support the pathologist in analyzing standard assays in histopathology. It enables non-technical users to configure, calibrate and execute versatile image analysis workflows. The software supports all major acquisition devices and users can analyze all kinds of tissue slides, tissue micro arrays and microscope images.

With the built-in Definiens Composer Technology<sup>TM</sup>, regions of interest can be extracted from images by selecting samples and train the software how to find the regions of interest. Once the training is finished, Definiens Tissue Studio<sup>®</sup> can extract the regions from an unlimited number of images.

A library of pre-defined image analysis solutions for typical every-day problems is provided that can be calibrated for the particular image data set, using Definiens Composer Technology<sup>TM</sup> and/or simple graphic sliders. These calibrated applications can be saved and submitted for batch execution.

Definiens Tissue Studio<sup>®</sup> allows the user to quantify IHC, fluorescence and other histological assays on a cell-by-cell basis.

### 1.1 About Definiens Tissue Studio<sup>®</sup> 3.0.1

Definiens Tissue Studio<sup>®</sup> 3.0.1 is a maintenance release. This is an optional update and includes 22 bugfixes and two small feature additions to Definiens Tissue Studio<sup>®</sup> 3.0. Please use the list of new features and bug fixes in the next section to make a decision on performing the update.

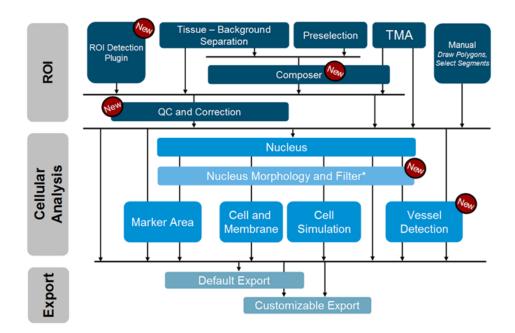


Figure 1.1. Overview of available actions in Definiens Tissue Studio (to reduce complexity, classification actions are not displayed)

### 13 January 2012 Release Notes

# 2 New Features, Bug Fixes and Errata

### 2.1 New Features

See table 2.1 on this page, New Features in Tissue Studio 3.0.1.

**Table 2.1.** New Features in Tissue Studio 3.0.1

Category	Reference	Description
User Interface	18458	Import File(s) Dialog: Folder recursion is now an option.
User Interface	18305	Import File(s) Dialog: Use natural sorting

### 2.2 Bug Fixes

See table 2.2 on the current page, Bugs Fixed in Tissue Studio 3.0.1.

Table 2.2. Bugs Fixed in Tissue Studio 3.0.1

Category	Reference	Description
Installation	18326	64bit workstation versions on Windows Vista/7: License activation: License files are not saved to license folder
Installation	18261	Audit trail tool is not part of installation
Data I/O	18211	JPG 2000 driver: Certain image files are not displayed correctly
Data I/O	18359	Aperio Annotation files: Files with missing attribute "MicronsPerPixel" are not read correctly
User Interface	18515	Tissue Studio [Quad] version: Error message that algorithms are missing

Continues...

Category	Reference	Description	
User Interface	18189	Manual ROI Selection: After loading solution, internal view for confirmed ROI selection is accessible	
User Interface	18229	Composer Training: Mean stain intensities not updated in image object information	
User Interface	18502	Composer Training: After press on button Undo Step, class Background turns to unclassified	
User Interface	18513	Composer Training: Error message "Layer 'OD' could not be accessed."	
User Interface	18351	Vessel Detection: everything classified as Vessel during configuration in some cases	
User Interface	18412	General Settings: IHC Marker selection is visible in IF portals	
User Interface	18282	Import File(s) Dialog: Dialog blocks access to certain directories	
User Interface	18505	Import File(s) Dialog: Wrong selection of subfolders on double-click	
ROI Detection	18163	Composer: Cut At Bottleneck: Cut width is set in pixels, should be um	
ROI Detection	18171	Composer: New composer training is necessary after reloading solution	
Cellular Analysis	18110, 18133	Some temporary class fragments are not removed	
Export	18109	Default Export: TMA core name is wrongly exported as slide name	
Export	18447	Default Export: ROI area values are exported in pixels not in $\mu m^2$	
Export	18154	Average Intensity Markers 1,2 and 3 is zero	
Processing	18122, 18460	64bit workstation version: jobs stay in state waiting due to wrong user rights for some files	

## 2.3 Known Issues and Limitations

See table 2.3 on the facing page, Known Issues and Limitations in Tissue Studio<sup>TM</sup> 3.0.1.

13 January 2012 Release Notes

Category	Reference	Description
Processing	N/A	Limitation: The ROI Detection algorithms work on the first six fluorescence channels only. Additional channels are ignored. Data export and visualization is possible for up to 12 channels.

Table 2.3. Known Issues and Limitations in Tissue Studio<sup>™</sup> 3.0.1

### 2.4 Document Errata

None

# **3** Additional Information

### 3.1 Solution Files from Previous Versions

Solution files from version 2.1.0 and above can be loaded with Definiens Tissue Studio 3.0. If an old solution file is loaded, the software will enter into a compatibility mode with the respective version. If you would like to leave this compatibility mode, press the button New Solution or load a solution that has been created with Definiens Tissue Studio 3.0.

### 3.2 Using Manual Selections from TissueMap 3.1 in Tissue Studio

Definiens TissueMap and Definiens Tissue Studio are two different products. The workspace layout has been changed. Due to this, users of TissueMap 3.1 can not use the manually created regions in Tissue Studio automatically. However, the workspaces with manually created region selections can be converted. Please contact Definiens product support at support@definiens.com to get the tool to convert workspaces.

### 3.3 Contact

If you have any additional questions, please contact your account manager or write a mail to support@definiens.com.

# 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.

The Visualization Toolkit (VTK) Copyright

This is an open-source copyright as follows:

Copyright © 1993–2006 Ken Martin, Will Schroeder and Bill Lorensen.

All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

- Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
- Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
- Neither name of Ken Martin, Will Schroeder, or Bill Lorensen nor the names of any contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CON-TRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUD-ING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABIL-ITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHORS OR CONTRIBUTORS BE LIABLE FOR ANY DI-RECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTI-TUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLI-GENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

ITK Copyright

÷

Copyright © 1999–2003 Insight Software Consortium All rights reserved. Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

- Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
- Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
- Neither the name of the Insight Software Consortium nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CON-TRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUD-ING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABIL-ITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSE-QUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUD-ING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAM-AGE

© 2012 Definiens AG

Page collection published 13 January 2012 ¶ Typeset by Wikipublisher

13 January 2012 Release Notes