Installing the free Zeiss ZEN software on a Windows PC

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Zeiss Microscopy makes available online a free version of their ZEN 2.5 software that users can install on Windows PCs in their labs. ZEN lite cannot perform all the functions available on the instruments and the workstations in the core facilities, but it is very useful to have for file management and export.

The Marley & Life Sciences North facilities have copies of both the 32bit and 64bit ZEN downloads available. Ask the core manager where these files and the associated documentation are kept. The 32bit ZEN installation file is large (358MB) and the 64bit ZEN zip file is huge (6.6GB). If you would like to obtain either of these files directly from Zeiss, see: www.zeiss.com/zen-lite *(Note, you will be asked to provide contact information)*

System requirements/recommendations:
- The 64bit version of ZEN 2.5 is compatible with 64bit versions of Microsoft Windows 7, 8, 8.1, 10.
- The 32bit version of ZEN 2012 is only for 32bit versions of Windows 7.
- Officially, the Zeiss requirements for the 64bit version of ZEN are a quad-core Intel i5 (3.0GHz), with 4GB of RAM, a 32bit color graphics adapter (4GB video RAM) with at least 1900x1200 resolution, a 20 inch monitor with 1600x1200 resolution, and a minimum of a 250GB hard disk drive. If all you need to do is open CZI files and export them to TIF images, you can get by with a somewhat lesser computer. That said, given the file sizes of some datasets, we recommend that users install this software on a computer with a minimum of 8GB of RAM (more would be better), a modern (dual-core or better) CPU, a large hard disk drive and a large monitor.
- The Zeiss official installation instructions express concern about security software (e.g., antivirus) interfering with ZEN. The Zeiss installation documents give detailed information about folders and files that should be excluded from antivirus scanning. In our experience, the UA's Sophos antivirus does not interfere with the ZEN software in any appreciable way.

WARNING - If you have a Zeiss configured computer attached to a camera, microscope, or other hardware that is controlled by any version of Zeiss ZEN, <u>do not</u> install a newer version of ZEN on that computer! Software upgrades should only be done by Zeiss personnel or by following your Zeiss technical representative's specific instructions.
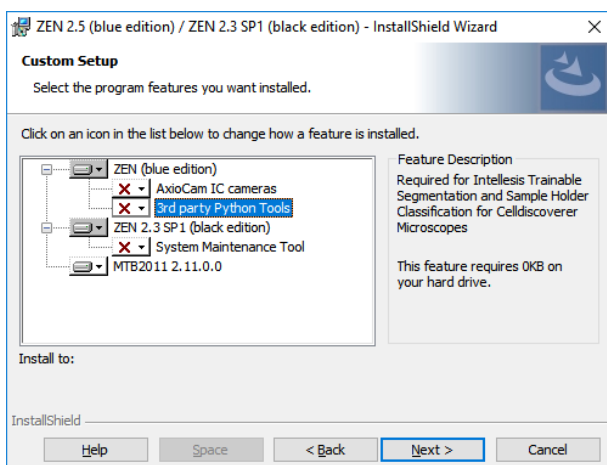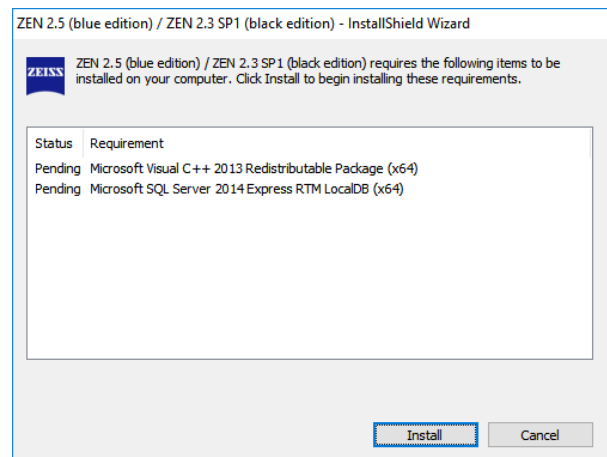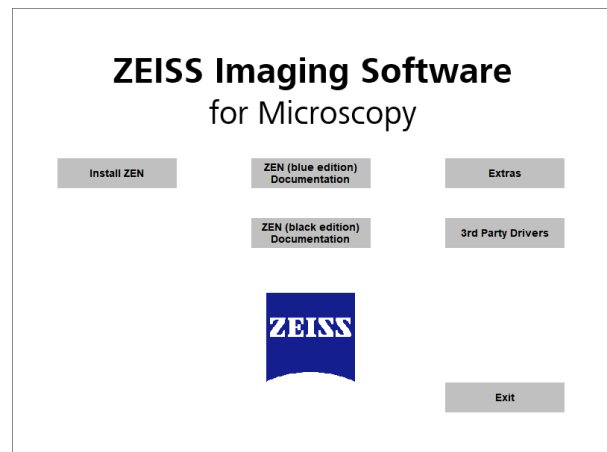
Installation instructions for installing the 64bit version of ZEN Blue 2.5 *(ZEN Black 2.3 SP1)*

Preliminary information
- You will need Administrative permissions in Windows to install the ZEN software.

- During the process of installation you will be asked to install many hardware device drivers. Since most users are primarily interested in a software only installation, the offered hardware device drivers are completely unnecessary and <u>we strongly recommend that you do not install the device drivers</u>. There is the potential for conflict with existing hardware drivers on your PC and choosing to not install the drivers will reduce the total size of the installed software significantly.

- FYI - Installation prompts may be slightly different depending on the version of MS Windows you are using. *This handout was written after installing ZEN lite on a Windows 10 computer.*

Installation

1. Before beginning the installation, create a Windows system restore point. This will allow you to "roll back" to an earlier state in the event that there are problems. (https://www.lifewire.com/how-to-use-system-restore-in-windows-2626131)

2. Uninstall any previously installed versions of ZEN. Previous versions of ZEN often wanted to install in C:\ZEN. After running the uninstall routine, delete this folder.

3. Download the ZEN software from the Zeiss website (the 64bit version could take several hours) or transfer the file you obtained from the Imaging Core onto your desktop *(installation of a program this size from a USB drive or even an external hard disk drive will be extremely slow)*.

4. Unzip the file to a directory. Often this is an option found when "right clicking" on the ZIP file. If this option (often called extract) is not available, you may need to install the free software 7-Zip (https://www.7-zip.org/).

5. It is usually recommended that you close all other programs that are running before installing software.

6. Double-click on the SETUP.EXE executable file to begin the installation.

7. On the first window that opens, choose the "Install ZEN" button.

8. Select the installation language (English or German). Click OK. The installer will begin.

9. The next window will alert you to a list of additional software that is required for ZEN. The list provided in the window for your specific computer might be slightly different than what is shown here. If you want to install ZEN, your only option is to agree to this by clicking "Install".

10. After installing this software, ZEN will request that you allow it to be installed. Click "Next".

11. You will be asked to accept the terms of the "License Agreement". Click the appropriate radio button to accept and then click "Next".

12. We recommend using the suggested installation folder. Click "Next".

13. The next Window (user information) is optional. Click "Next".

14. The next window allows you to customize the setup. We recommend that you customize the installation so that the AxioCam IC cameras, 3rd party Python Tools, and System Maintenance Tool have red Xs. None of these hardware-related tools are required since this is a software only

installation. The AxioCam will already have the red X, to change the other two tools, drop down the menu next to the name and select "Do not install this feature". Once you have configured the installation as shown, click "Next".

15. File associations – your choice, please note that

- **ZEN Black** is the software Zeiss uses to run their laser-based instruments, it will be more familiar to most people.

- **ZEN Blue** is used for Zeiss widefield microscopes and cameras, but it also happens to be better at exporting from the Zeiss CZI file format to TIF. <mark>For most users we recommend that you choose ZEN Blue.</mark>

16. Click INSTALL to begin the installation.

17. After several minutes the installation will want to install device driver components. We recommend that you say DON'T INSTALL to all of the following:

- Carl Zeiss Microscopy GmbH (44 times!)

- Carl Zeiss Microscopy GmbH Imaging Device

- Carl Zeiss Microscopy GmbH Universal Serial

- Carl Zeiss Microscopy GmbH Imaging Device

- Carl Zeiss Microscopy GmbH Universal Serial

- Carl Zeiss Microscopy GmbH PCMIA adapter (2 times!)

18. Copy License files window, click "Finish".
(NOTE: License files would allow you to use some of the more advanced software options in ZEN, but you would need to purchase the license from Zeiss)

19. You will need to restart your computer.

20. After the installation and restart you may notice that your desktop has gained several icons.

- <u>Keep</u> – Zen (blue), ZEN (black), ZEN (blue edition) 2.5 Manual

- <u>Discard</u> – ZEN configuration tool, MTB2011 Configuration 2.11.0.0 *(these are hardware configuration tools)*

21. Since most users will use ZEN for exporting from the proprietary CZI file format to TIF images, please see the PDF handouts entitled **Using Zeiss ZEN software to export from CZI files to TIF** and **Zeiss ZEN – performing a maximum intensity projection of a Z-stack** (available at: http://microscopy.arizona.edu/learn/printable-materials#instruments)