

AirTeach User Manual



Confirm IT Requirements



- Cameras from Leica Microsystems (with up to date firmware) which are Ethernet compatible and in Ethernet Mode
- Cameras set to 800 x 600 Resolution and 10fps frame rate limit as starting point
- Cameras connected by Ethernet cable to connections at all microscope workplaces
- 1 Gigabyte Ethernet Network Ports for cameras and PC's. 5MBit/s per camera required (Camera Setting - Resolution: 800x600; Framerate 10 fps)
- Dedicated Network Switch to accommodate the number of cameras plus two PC's
- One Windows PC for AirTeach (touchscreen or standard)
 - Disable Firewalls, Sleep Mode, Power Saving, auto network disconnect mode, anti-virus programs
 - Hard Drive: 256GB or larger (SSD preferred but not mandatory)
 - CPU: Intel Core i7
 - Network: 1GB Ethernet port
 - Memory: 16 GB
 - AirTeach installed on AirTeach PC
 - 1Gb Dedicated Stand Alone Graphics Card
 - Monitor: 22" or larger (optional touch screen for AirTeach PC)
 - Connected to network by Cable (WiFi disabled)
 - Bonjour Installed
 - Windows 8.1 minimum
 -

Confirm IT Requirements (continued)

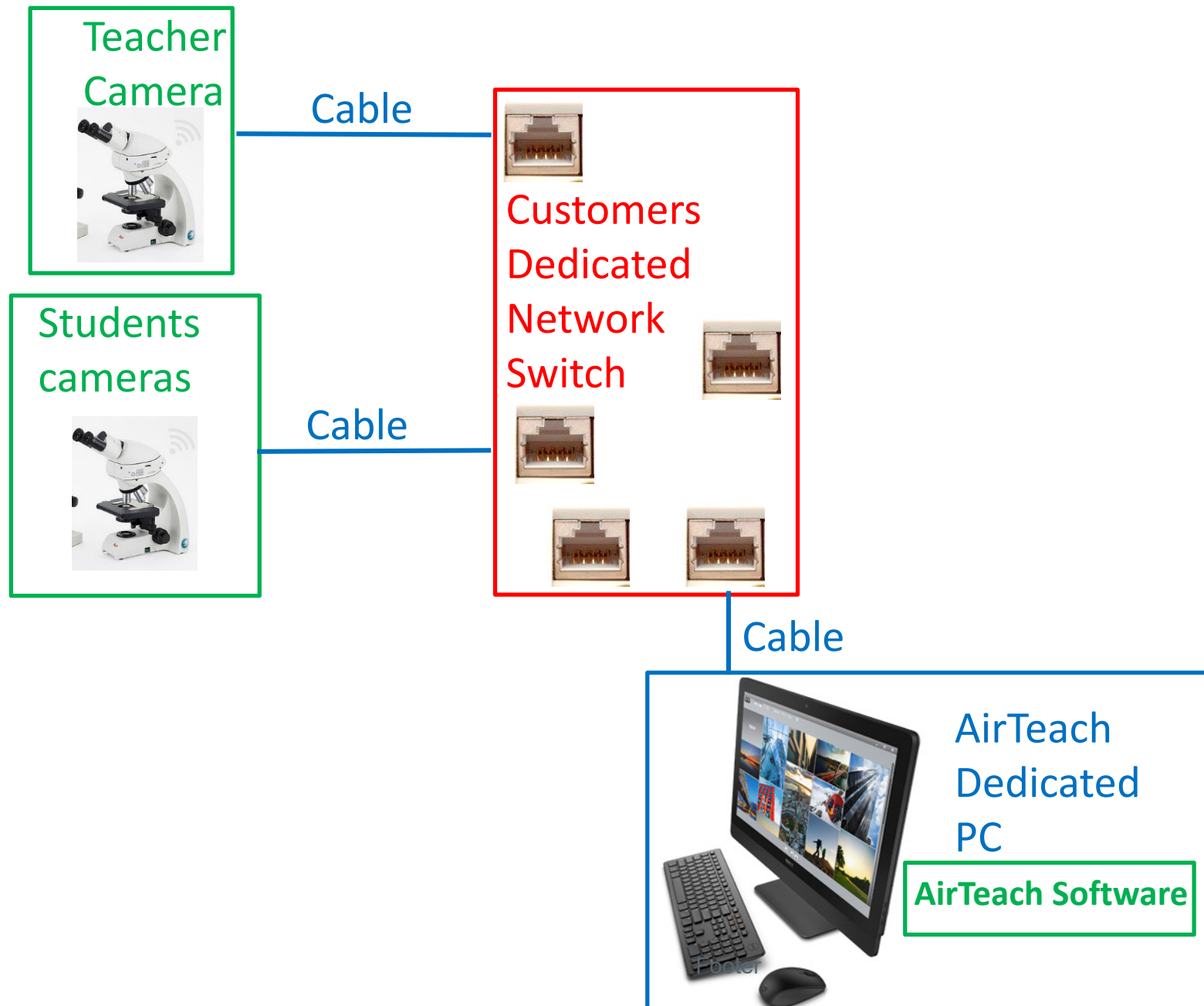
- Projector or Large Screen Display
- The following ports are opened within the network where the cameras and PC's are connected by cable and the mobile devices are connected by WiFi
 - TCP 80 (HTTP)
 - TCP 8080 (HTTP)
 - TCP 8081 (Login, classroom communication)
 - TCP 8900 (RTSP Proxy Server Management)
 - TCP 8082
 - TCP 8085 (HTTP)
 - UDP 8086 (Broadcasting)
 - UDP 8554 (RTSP)
 - TCP 8554 (RTSP)
 - UDP 554 (RTSP)
 - TCP 554 (RTSP)
 - TCP 8555 to 8605
 - UDP 8555 to 8605
 - UDP 5353 (Bonjour Multicast DNS)

Quick Start Guide

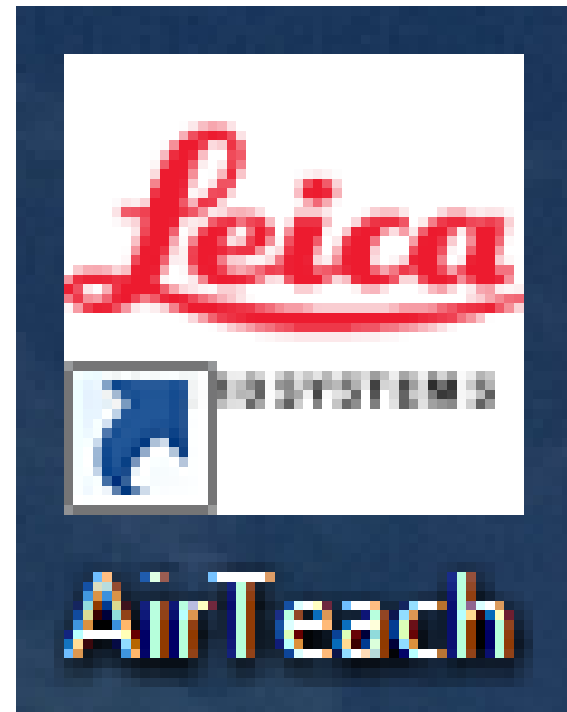


1. Confirm IT Requirements
2. Connect cameras by Ethernet cable to network
3. Connect AirTeach PC by Ethernet cable to network
4. Power up Cameras (confirm Ethernet Mode)
5. Power up AirTeach PC
6. Power up Projector
7. Launch AirTeach from AirTeach PC
8. Configure Classroom Layout in AirTeach and Save
9. GET STARTED!!

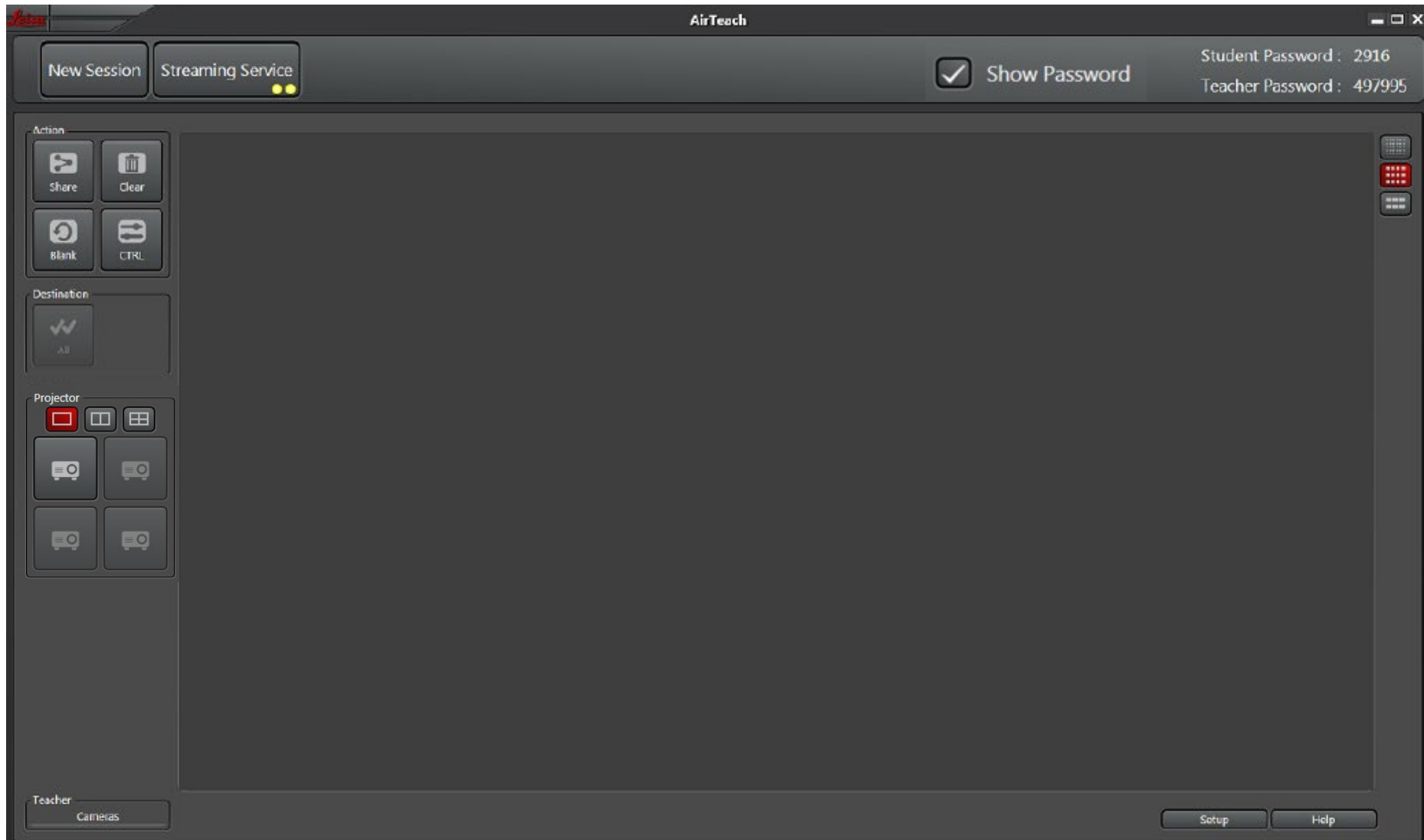
AirTeach Classroom System Diagram



- Confirm IT Requirements
- Connect Cameras, AirTeach PC by Ethernet cable to network
- Power up cameras, Confirm cameras are in Ethernet Mode
- Power up AirTeach PC
- Power up Projector
- Launch AirTeach on AirTeach PC

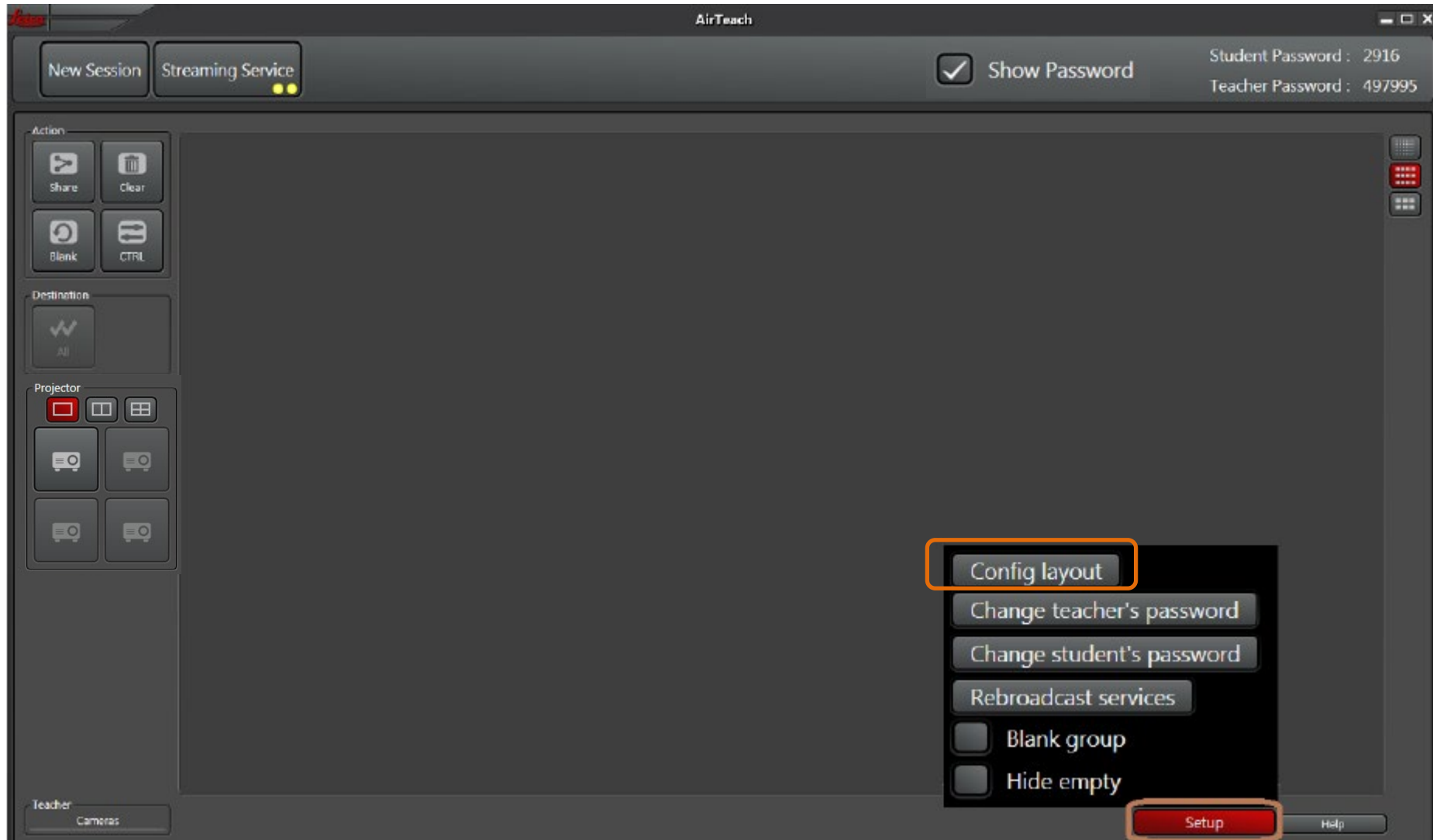


Teacher's Cockpit View



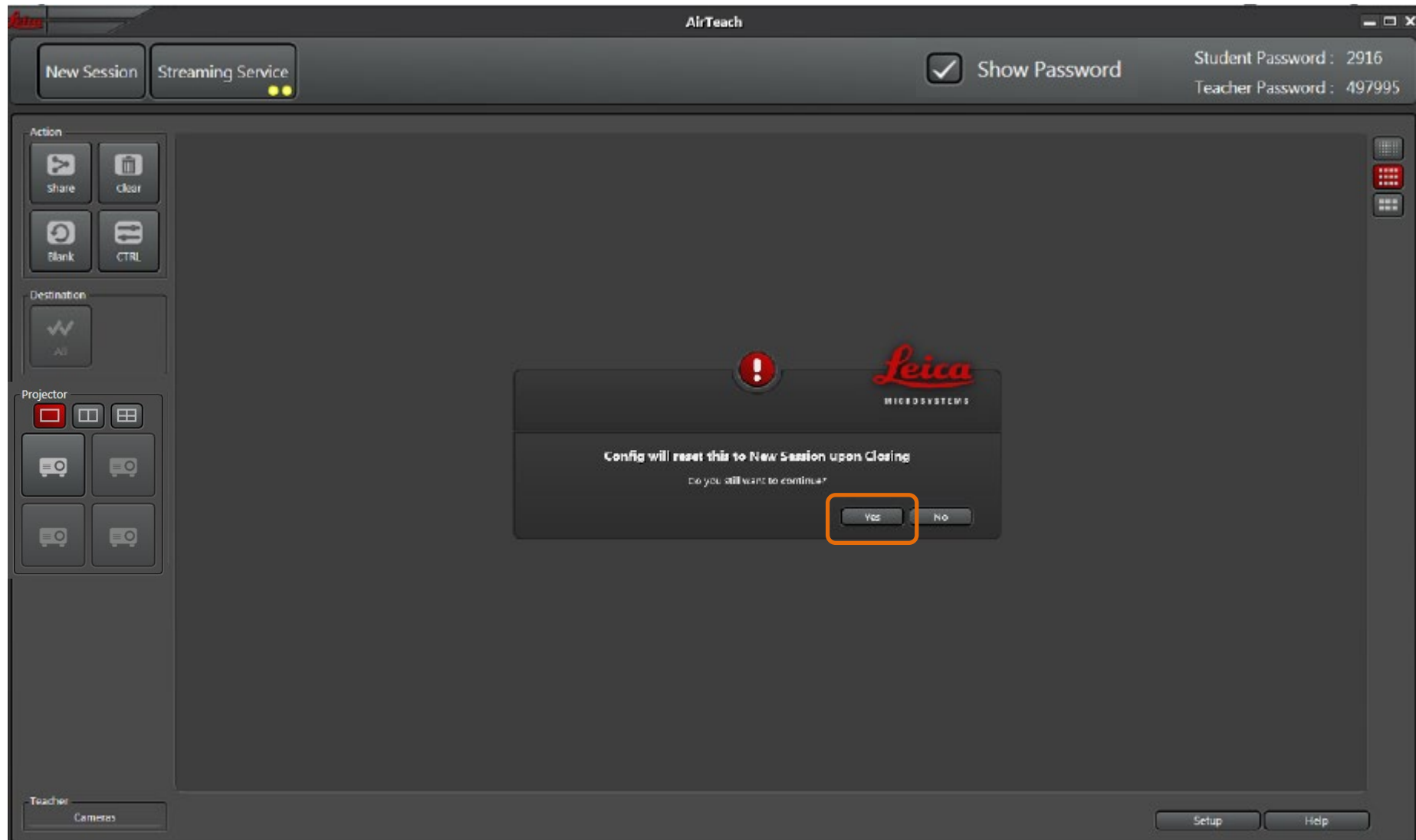
Teacher's Cockpit View

Click "Setup" and select "Config Layout"



Teacher's Cockpit View

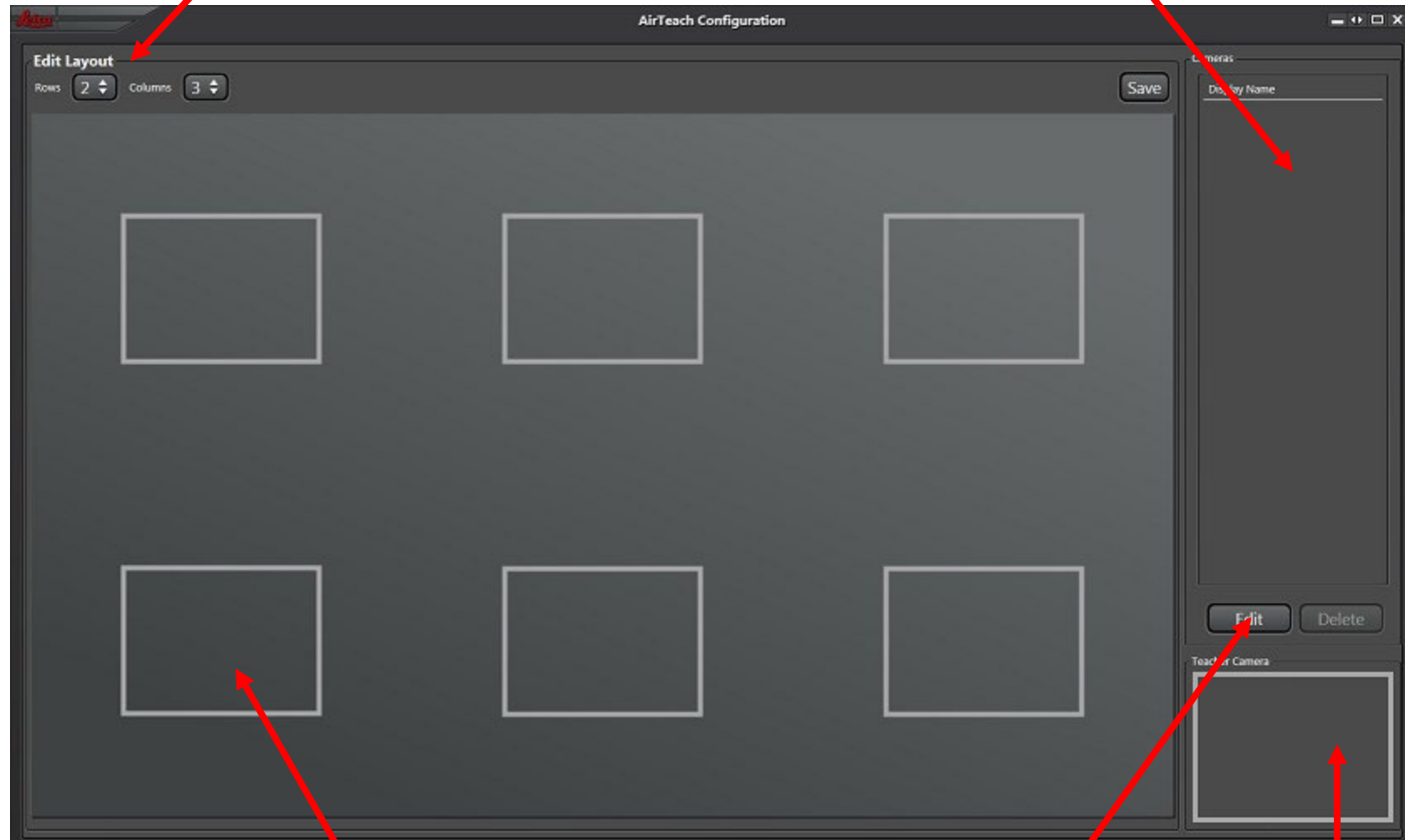
Warning message of New Session – Click “Yes”



Configuration View

Set rows and columns to match classroom layout

List of available cameras for your Session



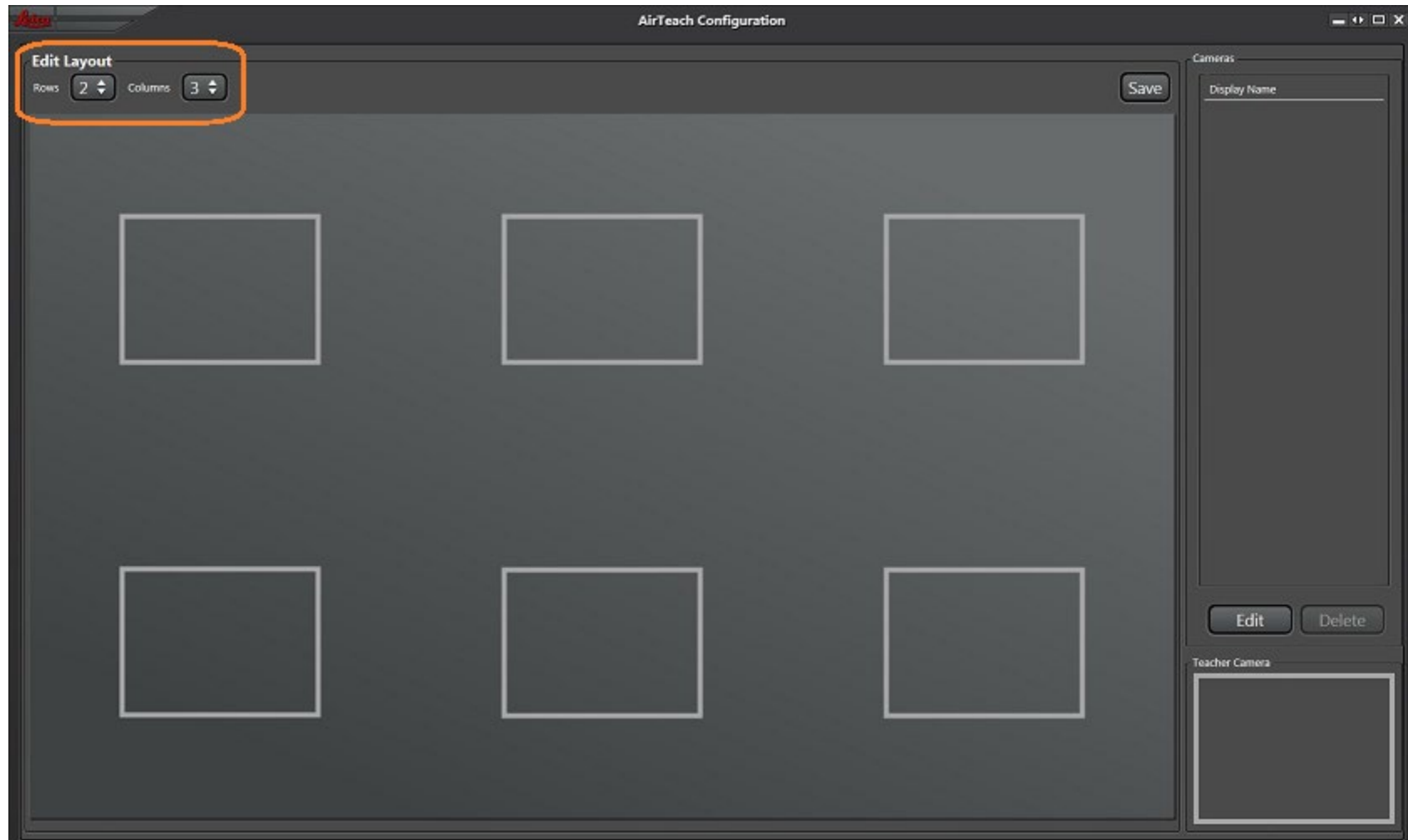
Positions for Cameras

Click to start adding cameras

Teacher's Camera Position

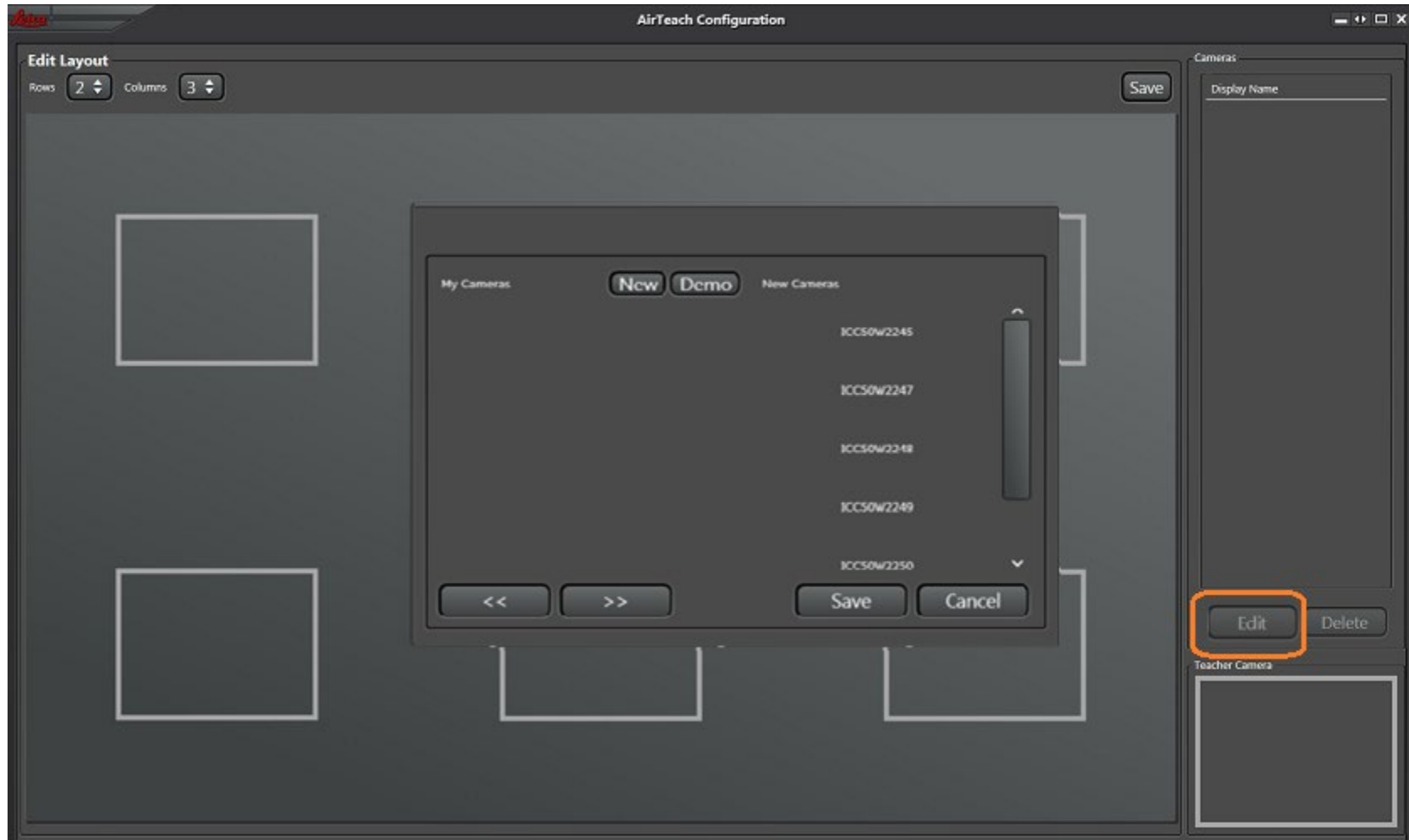
Configuration View

Set rows and Columns



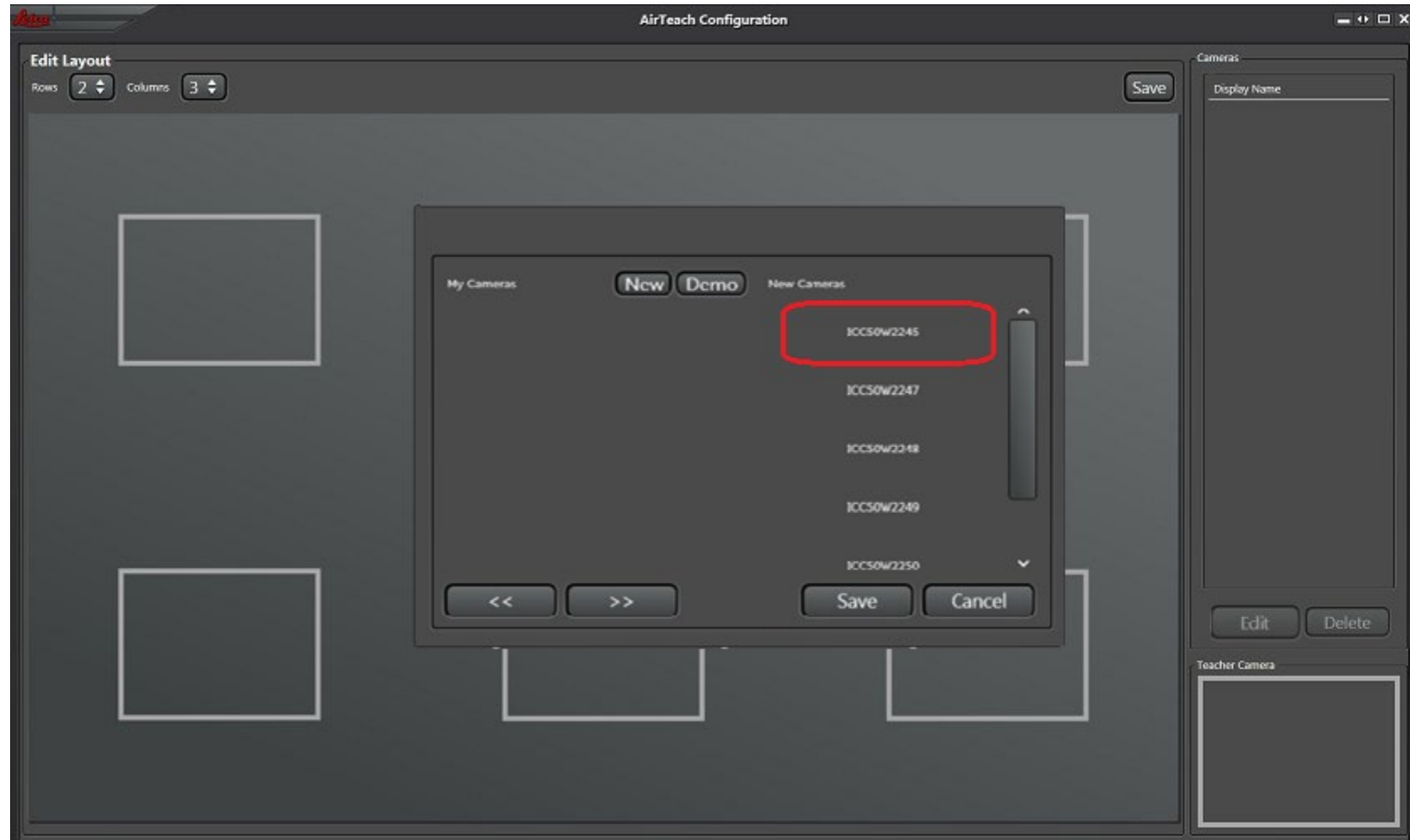
Configuration View

Click "Edit" to See list of cameras which have not been used before as "New Cameras"



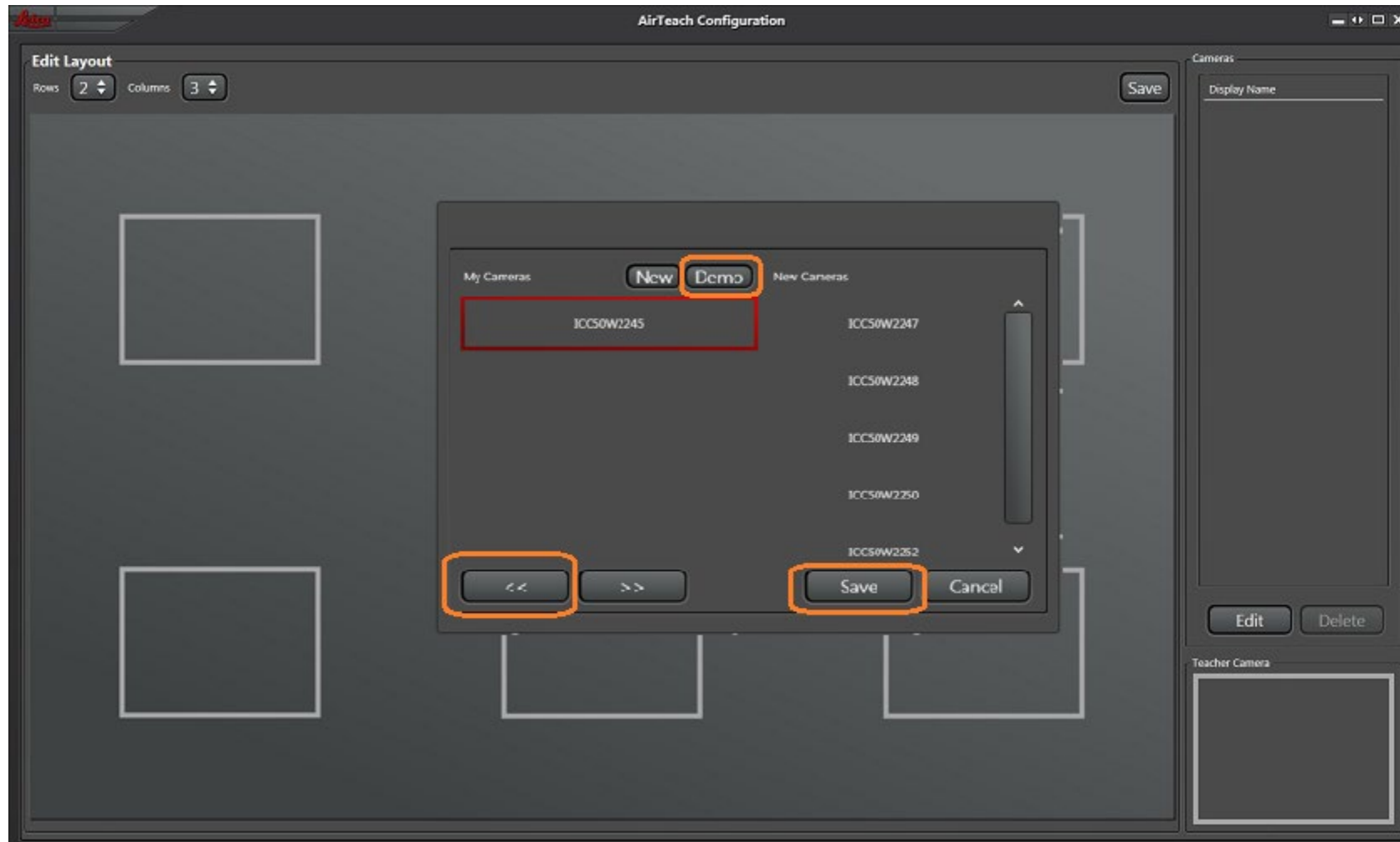
Configuration View

Select cameras you want for the session



Configuration View

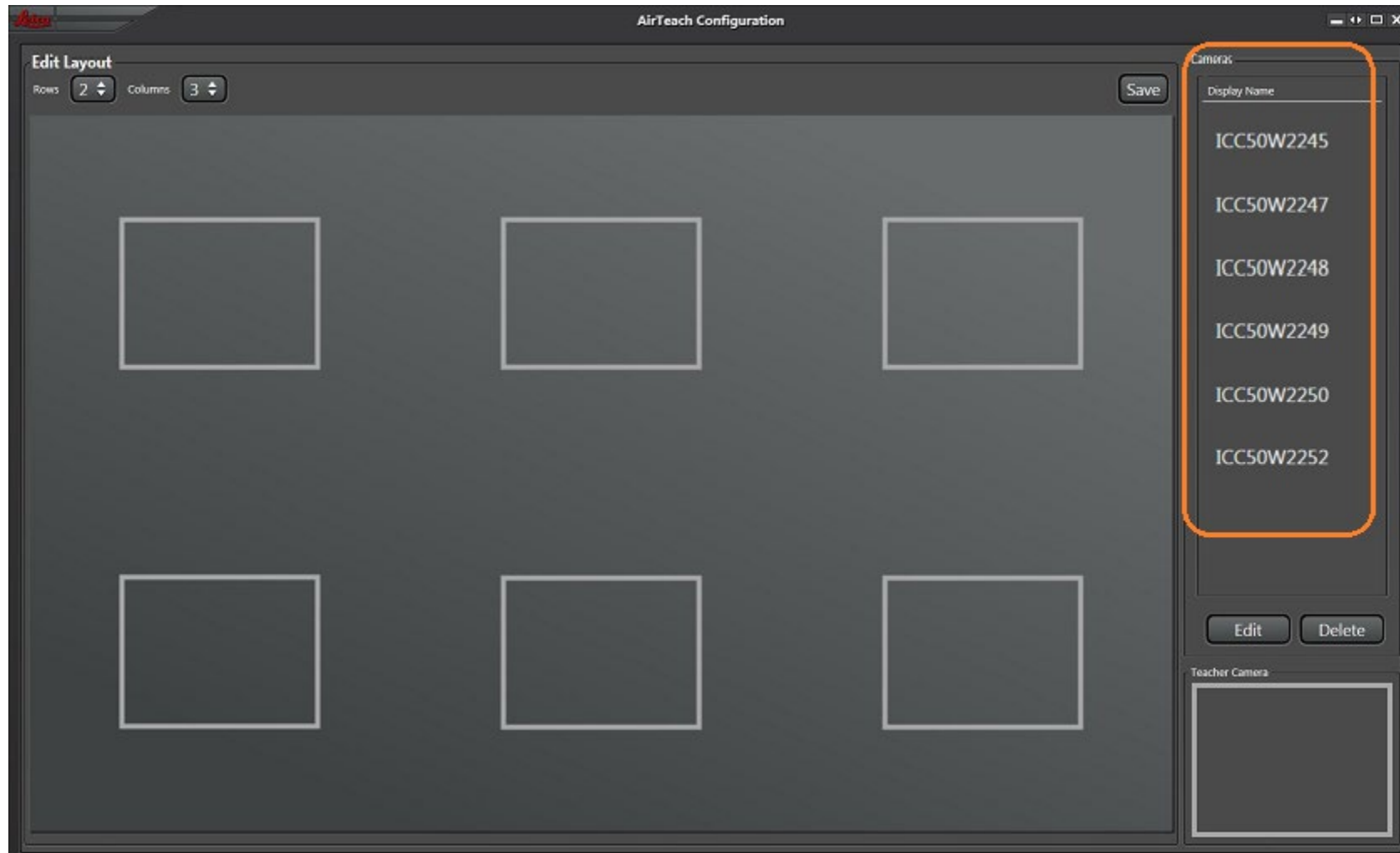
Move cameras to "My Cameras" using the arrow or drag and drop and then "Save"



Note: Demo cameras can be selected for testing

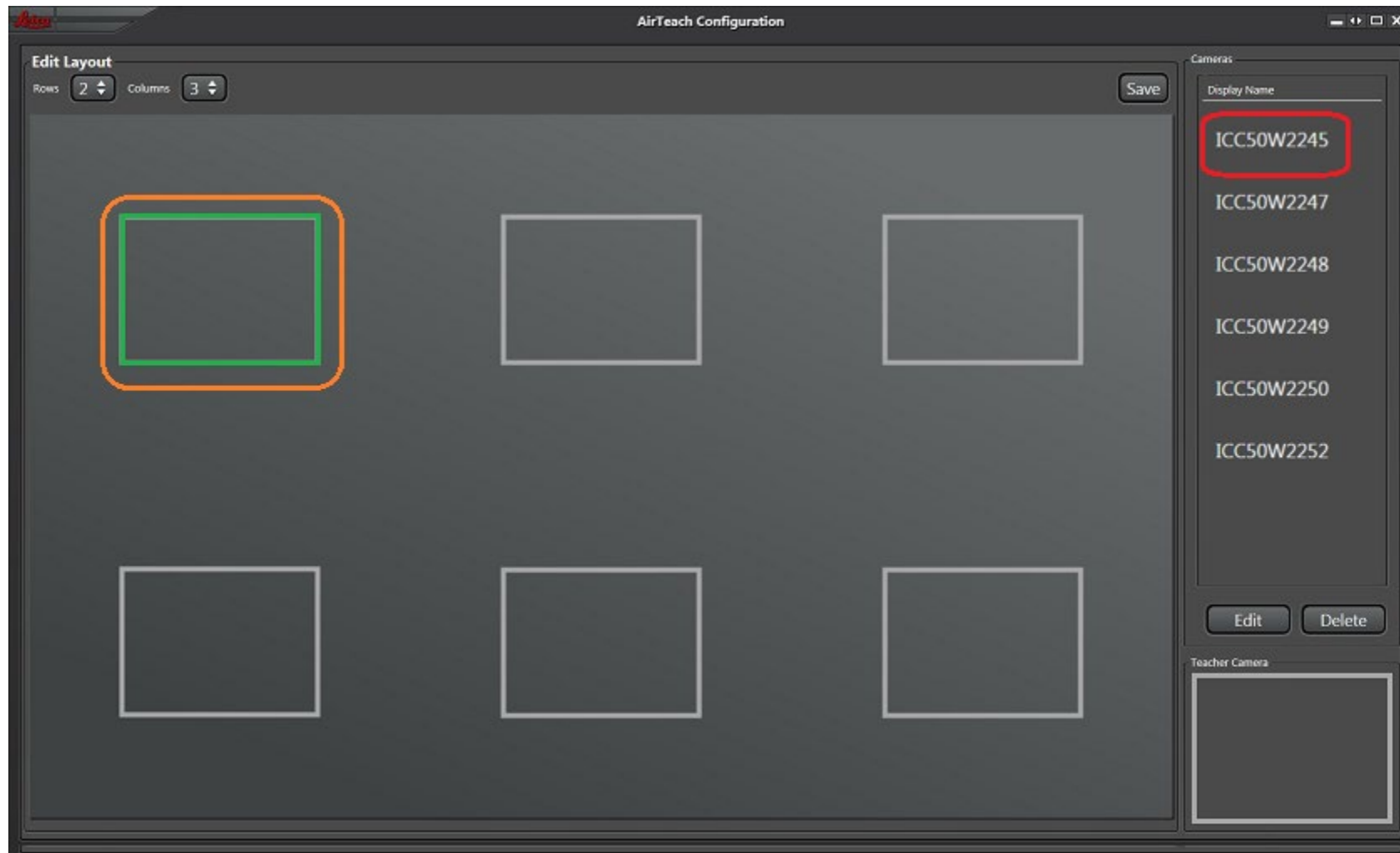
Configuration View

After Saving, "My Cameras" are moved to Camera list



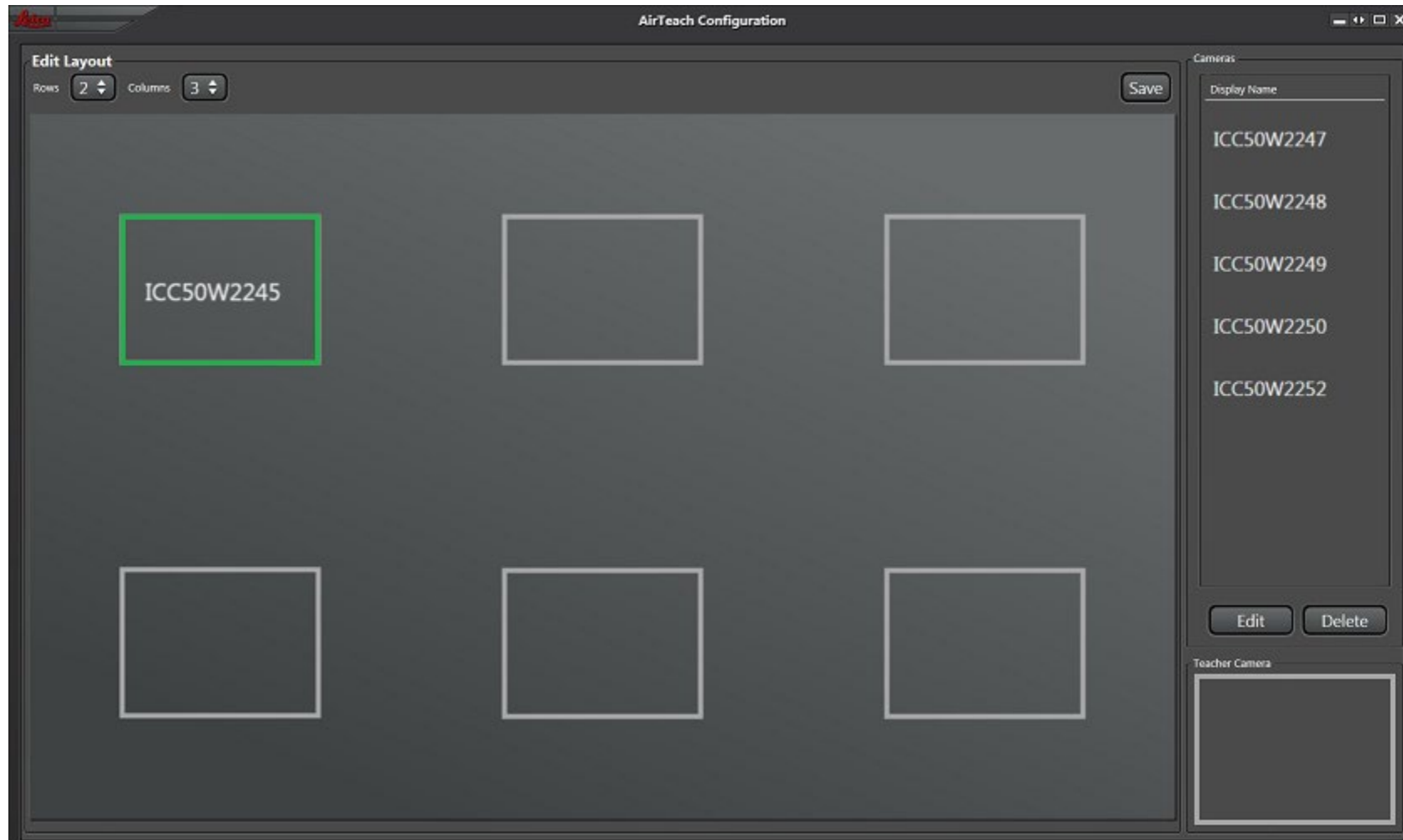
Configuration View

Select area where you want the camera to be positioned then drag and drop or double click on the camera name



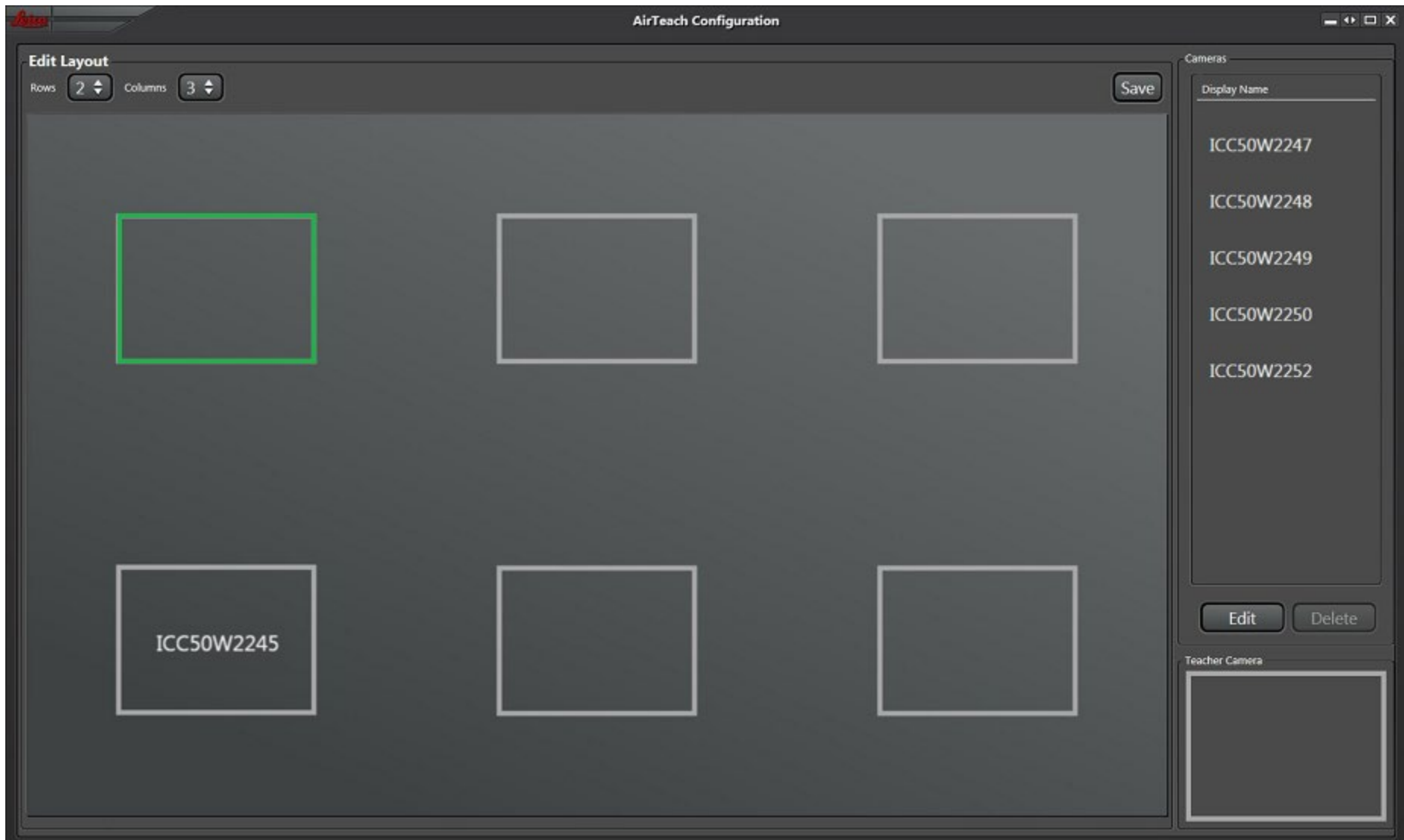
Configuration View

Camera name appears in the position and is removed from the camera list



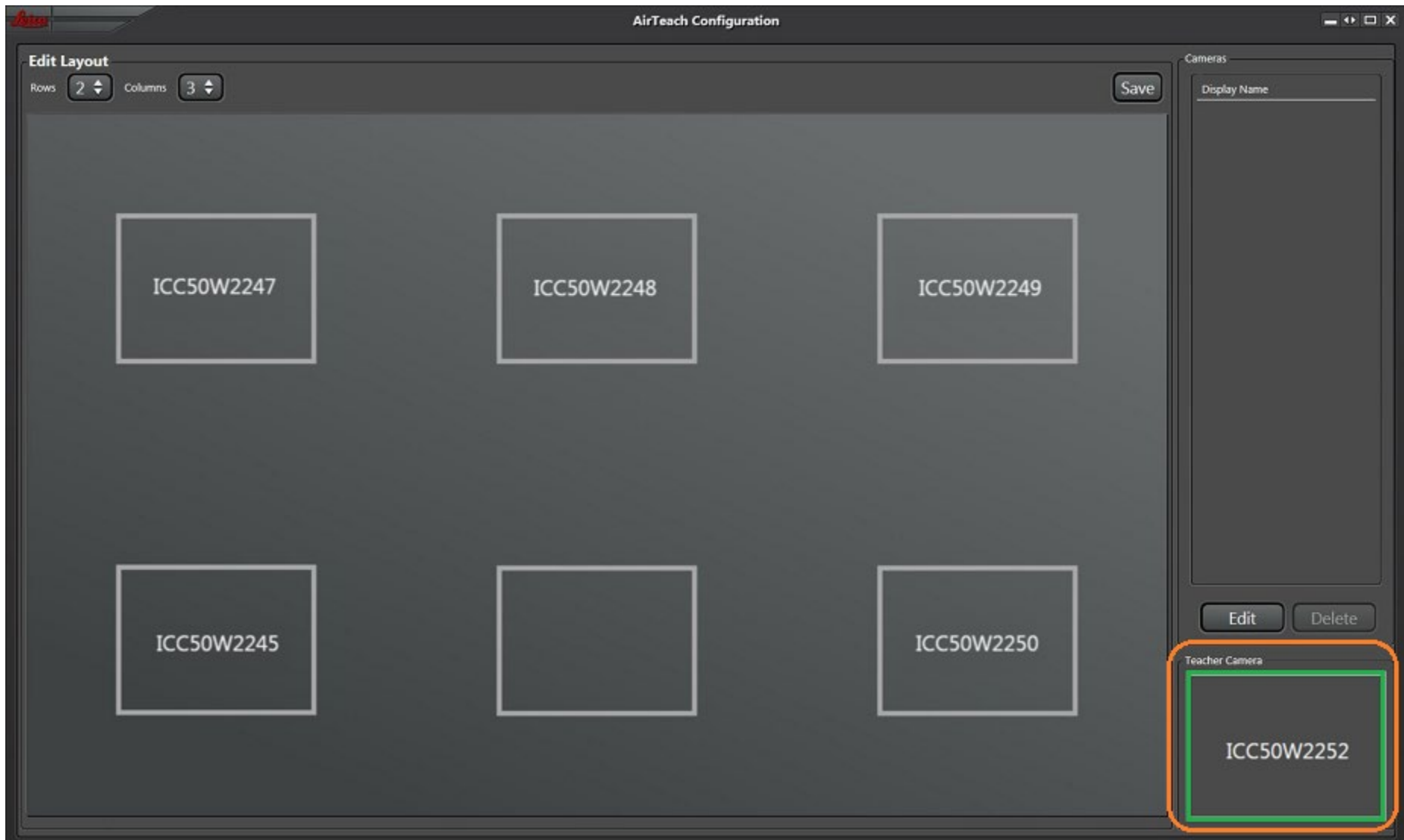
Configuration View

Drag and drop to move camera to a new position



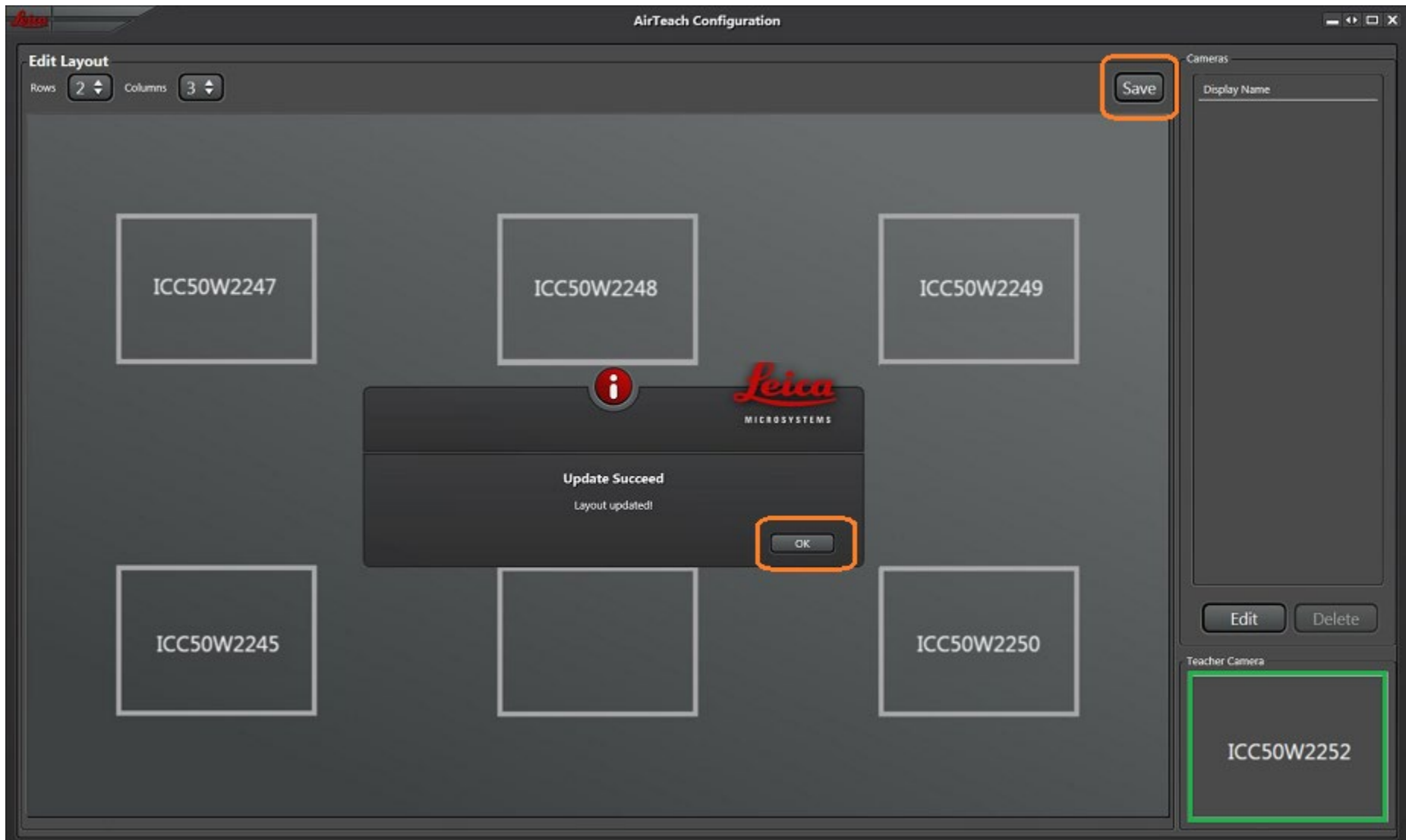
Configuration View

Position the Teachers Camera in the "Teacher Camera" box



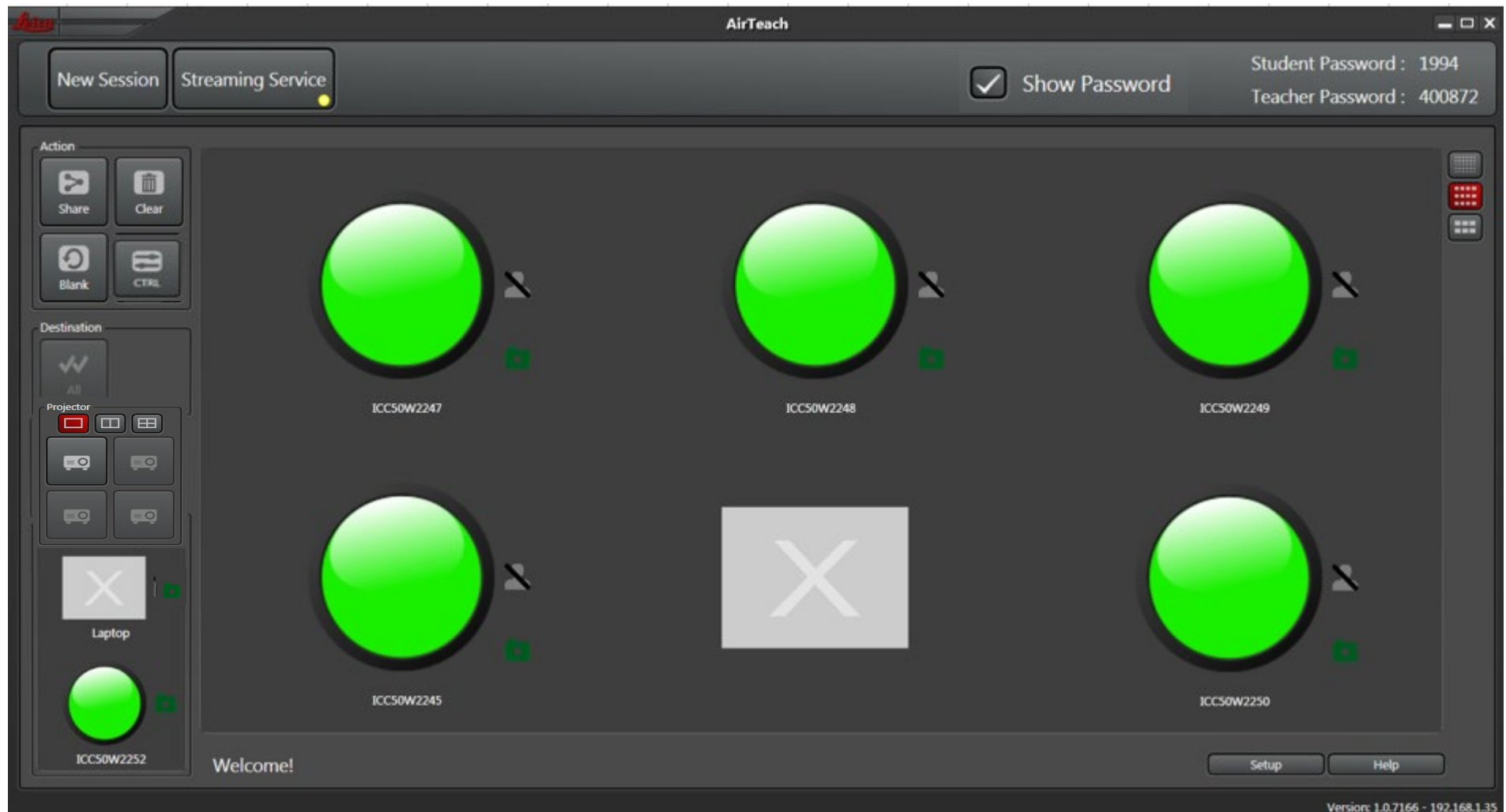
Configuration View

Click "Save" and "OK" to save the layout and automatically switch to Teacher's Cockpit view



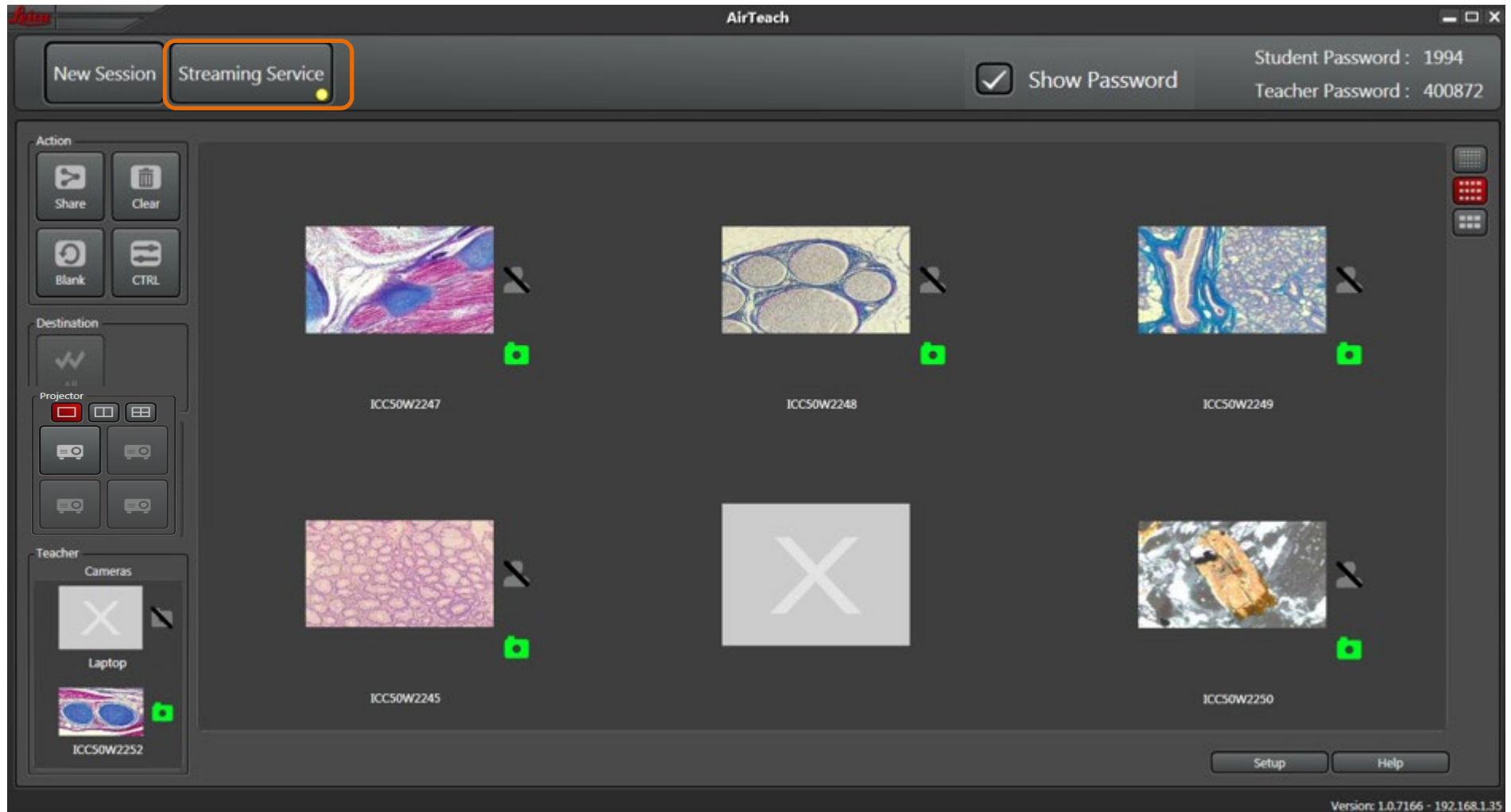
Teacher's Cockpit View

Startup of thumbnails



Teacher's Cockpit View

See Thumbnails of Cameras and Activate Streaming.



Note: when a camera is connected, the camera icon will be bright green and you will see a thumbnail.

Teacher's Cockpit View

Start a new Session

Activate Streaming

Show Student Password on Projector (for future development)

Student and Teacher Passwords (for future development)

Streaming indicator

☒ Show Password

Student Password : 1994
Teacher Password : 400872

Action buttons (Share and Blank for future development)

"Select all" function

Projector function

Student (for future development) and camera log in indicators

Select thumbnail size

Help to see User Manual

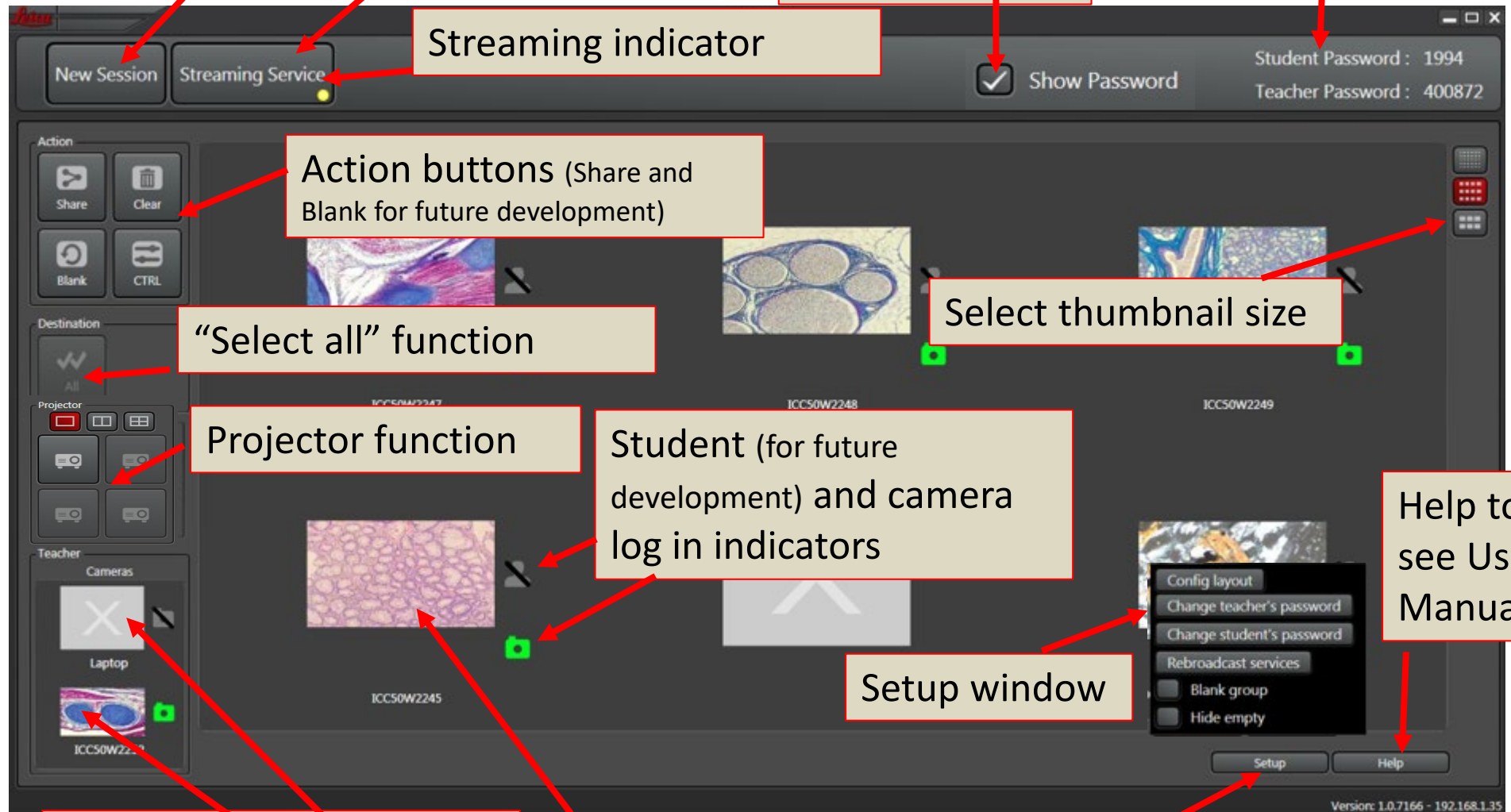
Setup window

Teacher Laptop (for future development) and Teacher Camera thumbnails

Student Camera Thumbnails

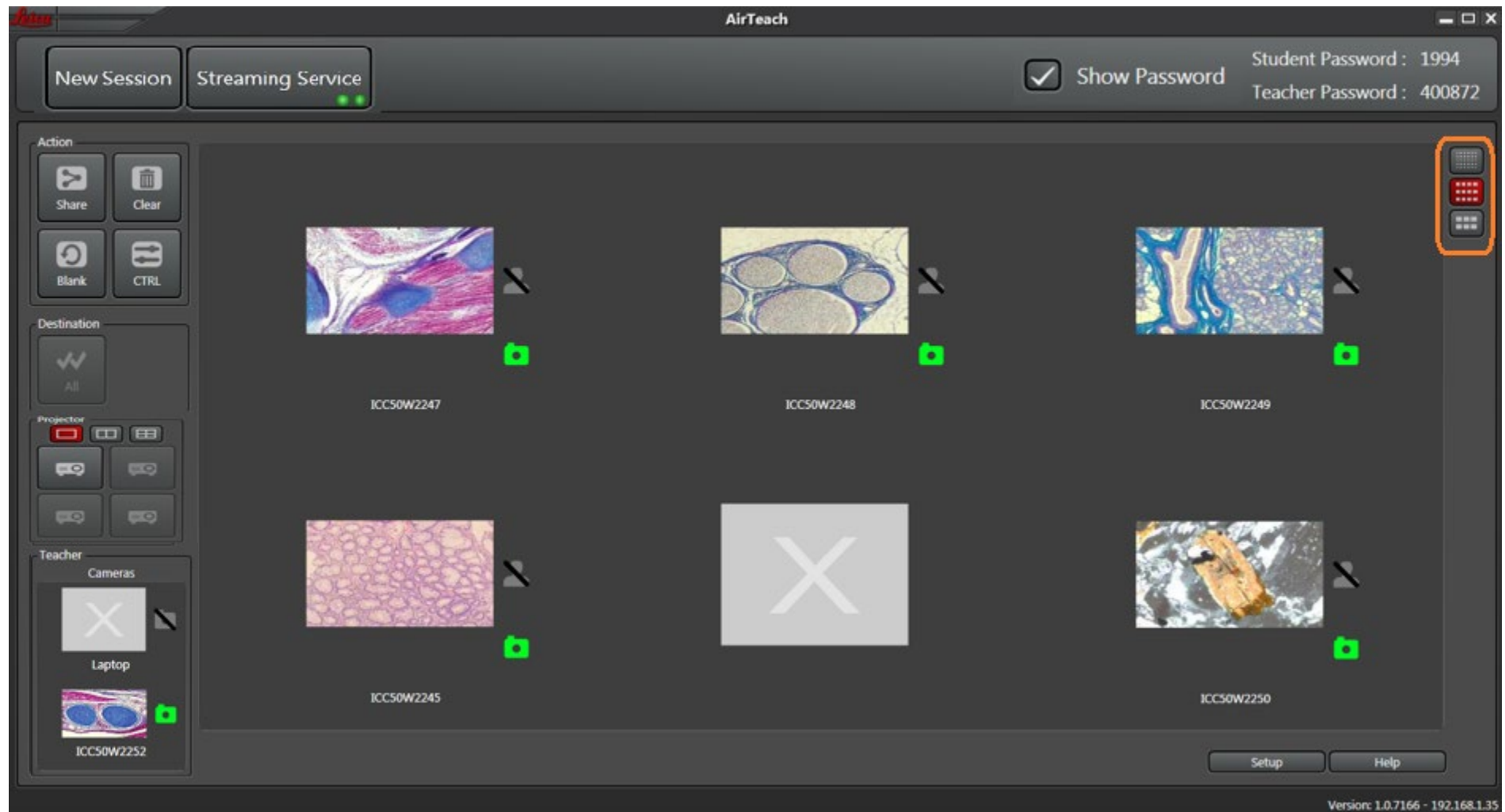
Open Setup window

IP address of AirTeach PC



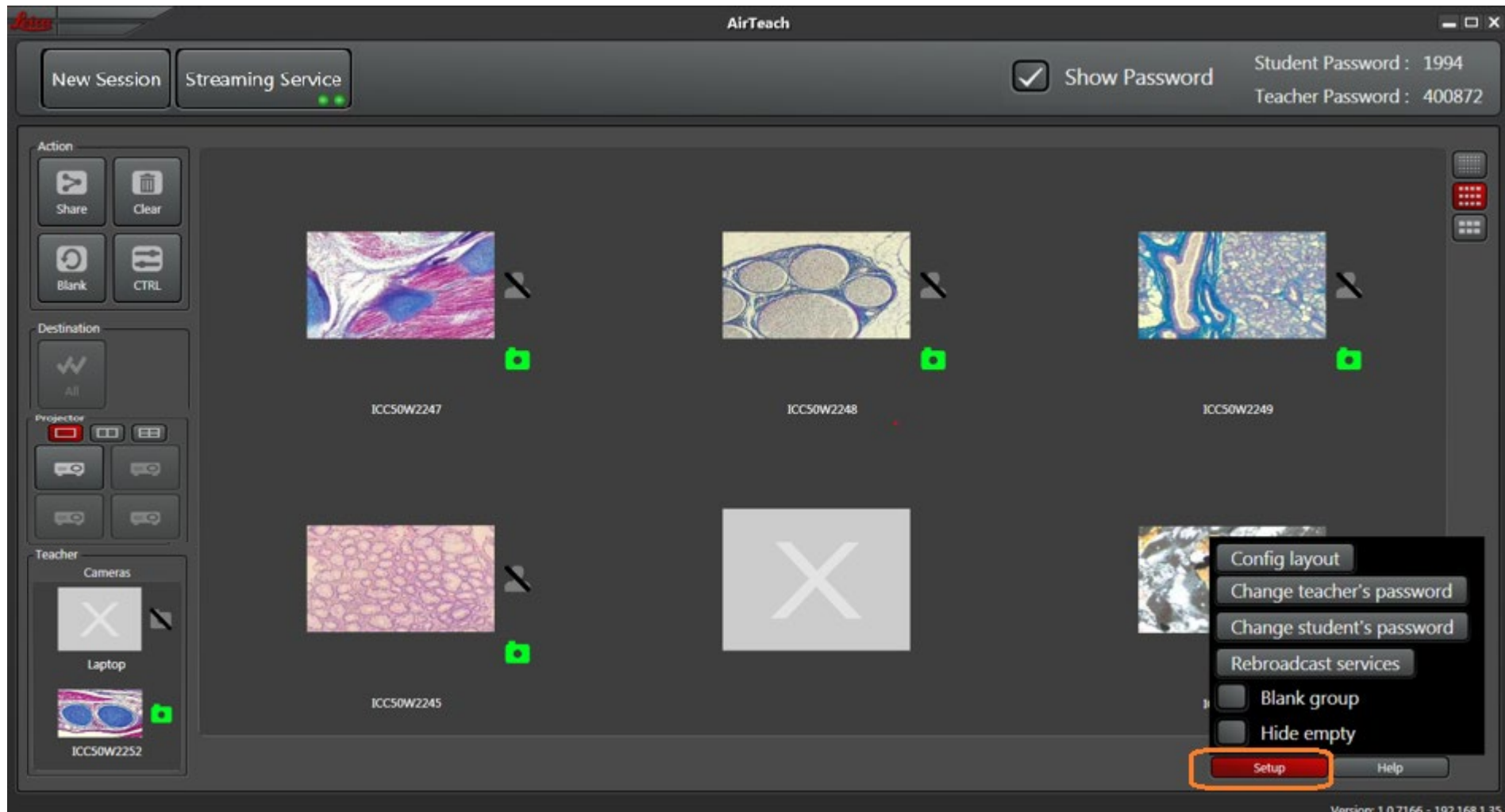
Teacher's Cockpit View

Select Thumbnail size



Teacher's Cockpit View

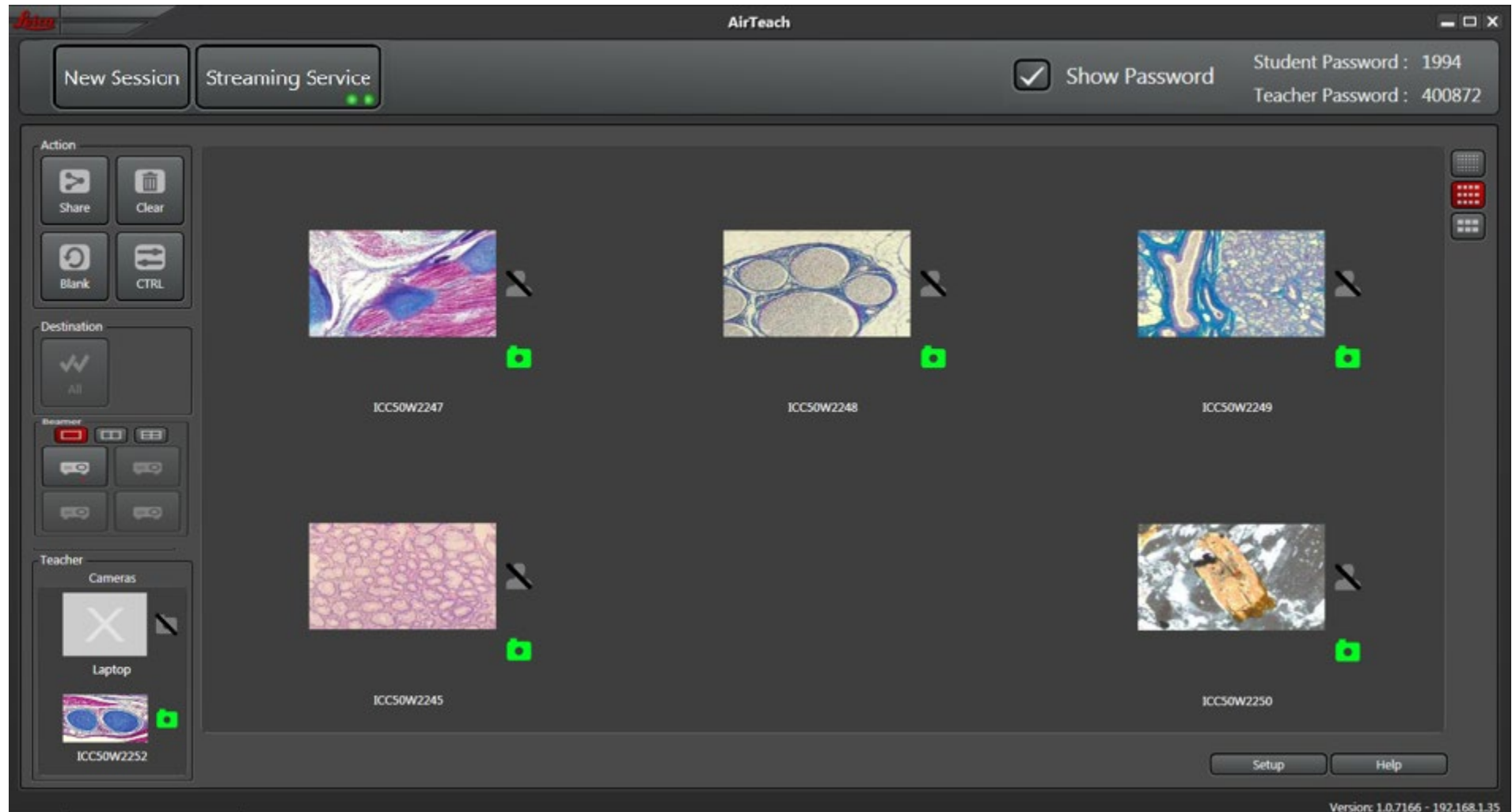
Click "Setup" and click "Hide Empty" to hide positions without cameras



Also use "Setup" to return to "Configuration Layout View"

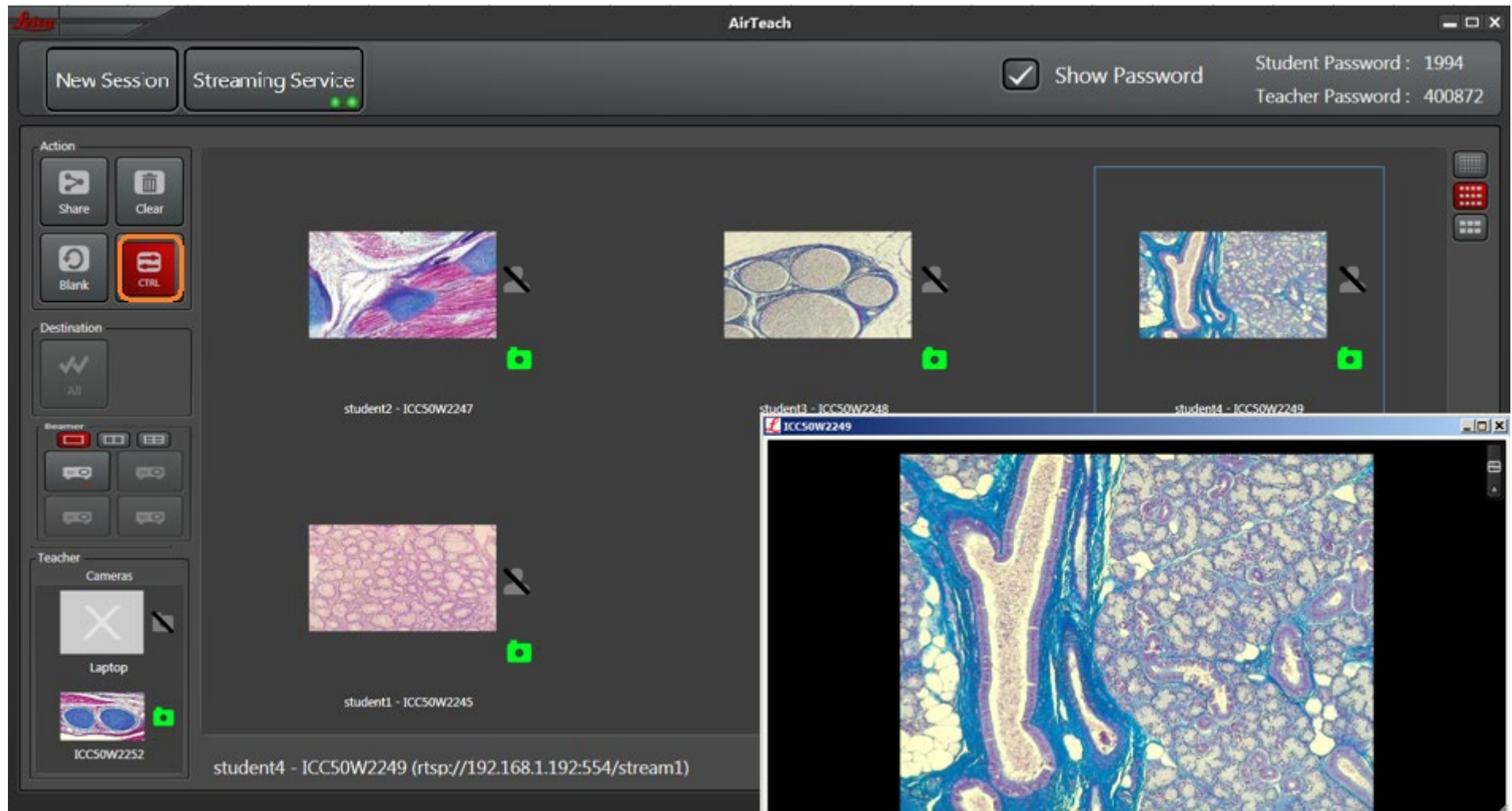
Teacher's Cockpit View

Thumbnail view now matches class layout



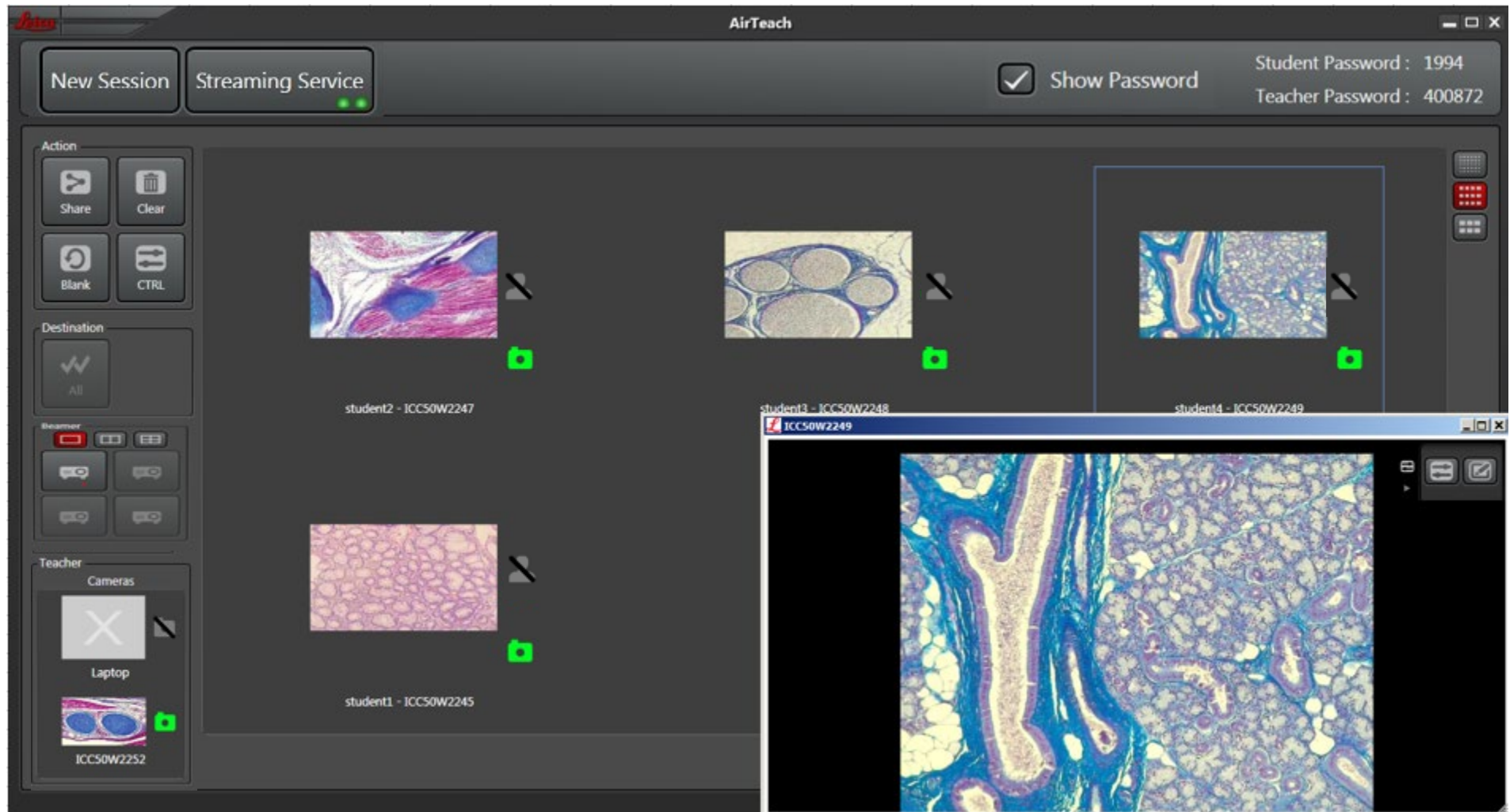
Teacher's Cockpit View

Double click a thumbnail or click Control then a thumbnail for an enlarged view of one of the cameras



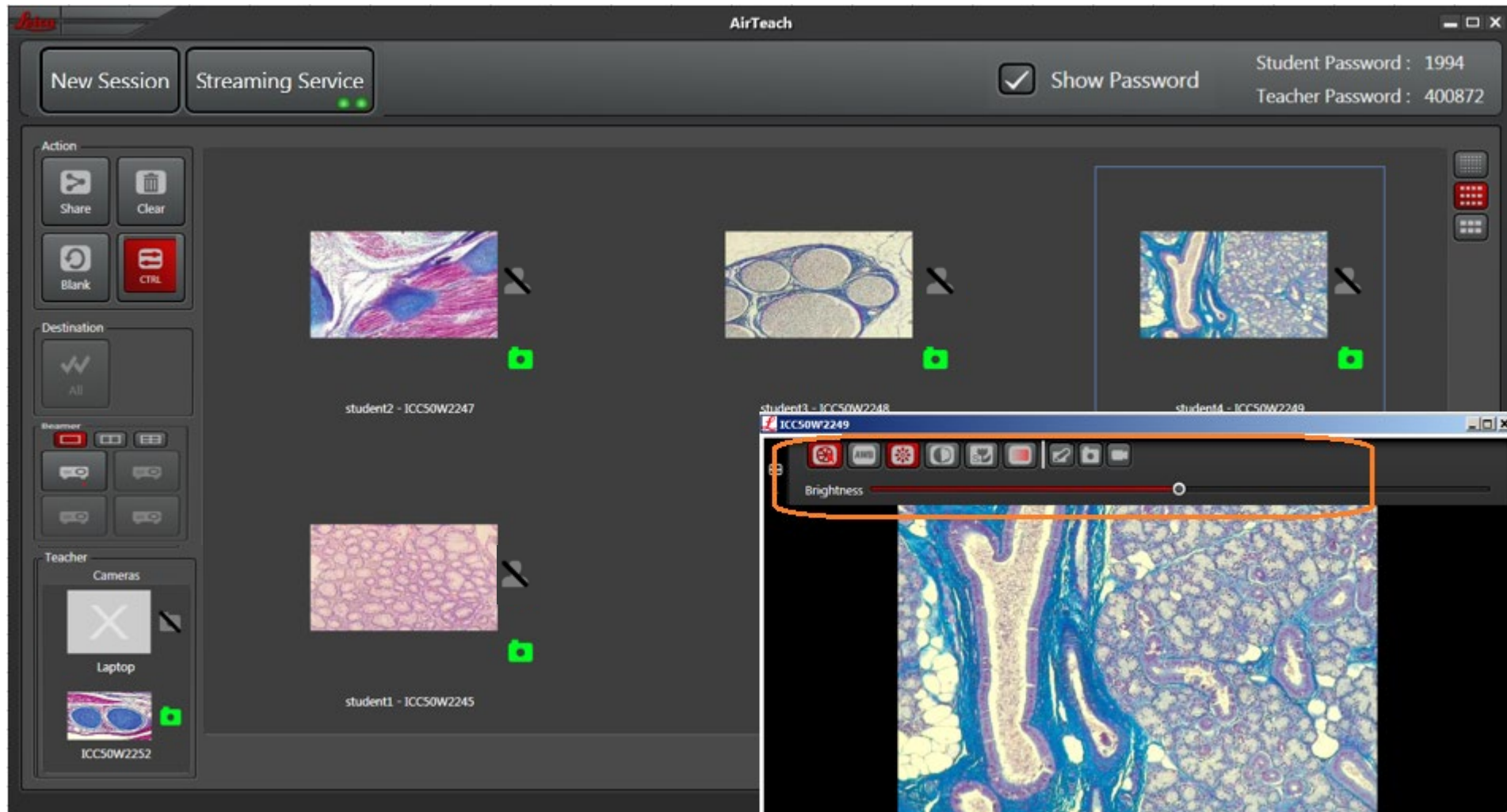
Teacher's Cockpit View

Click top right icon of enlarged image to select camera settings or annotation



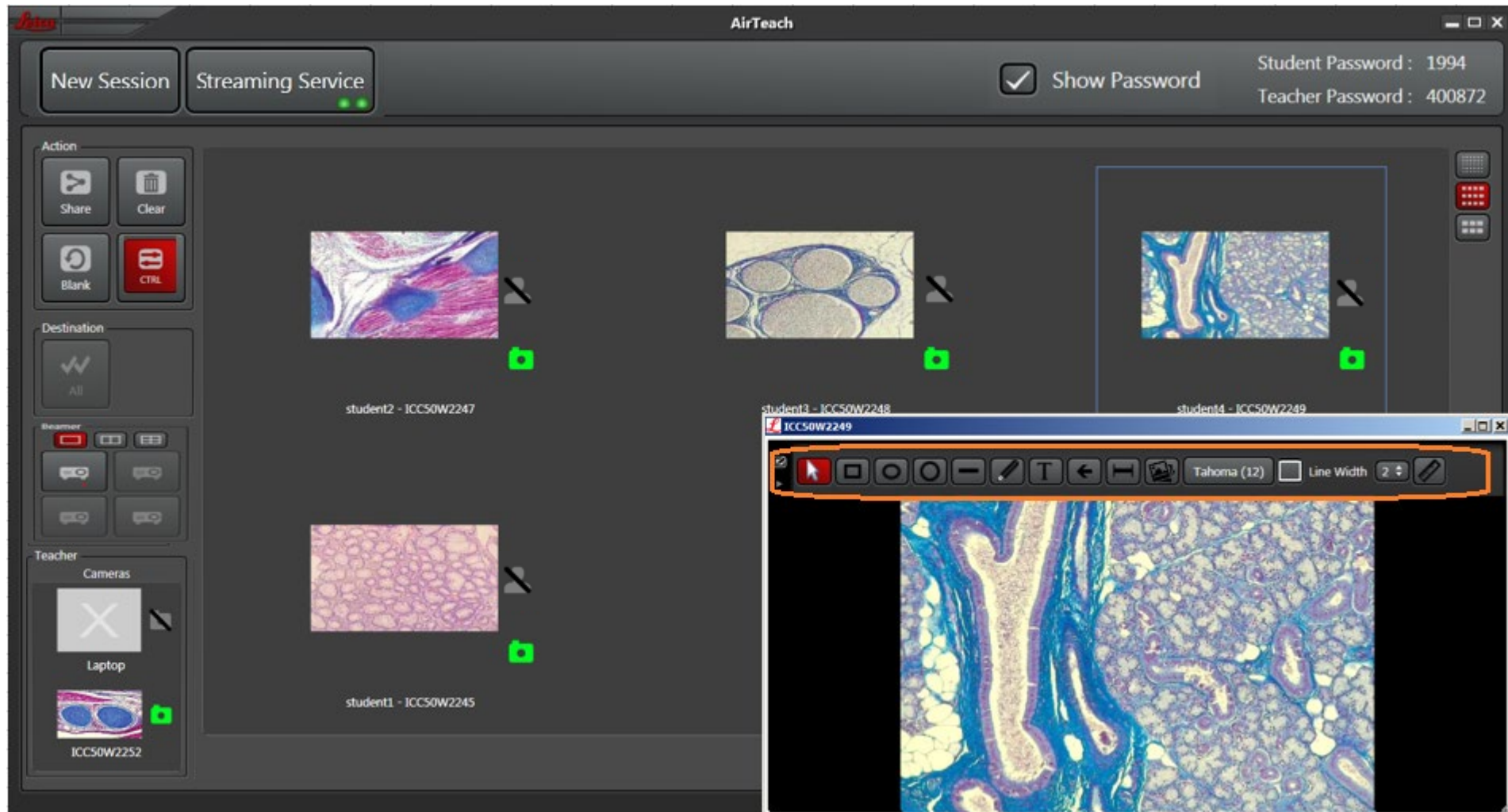
Teacher's Cockpit View

Camera settings allows control of the selected camera



Teacher's Cockpit View

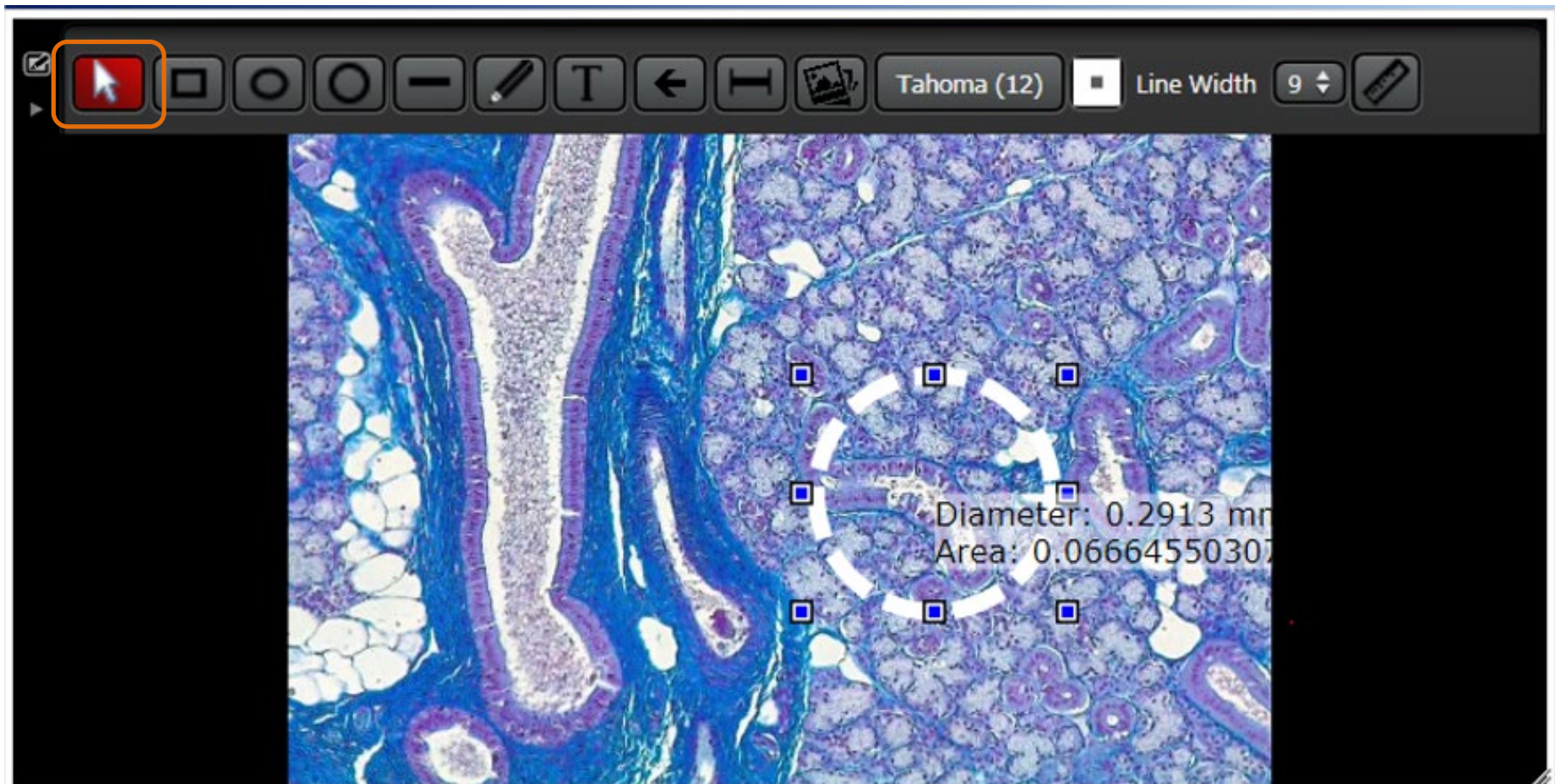
Annotations allows shapes, free hand, and measurements



Note: Annotations are shown on the projector only when a single image is selected for full screen projection

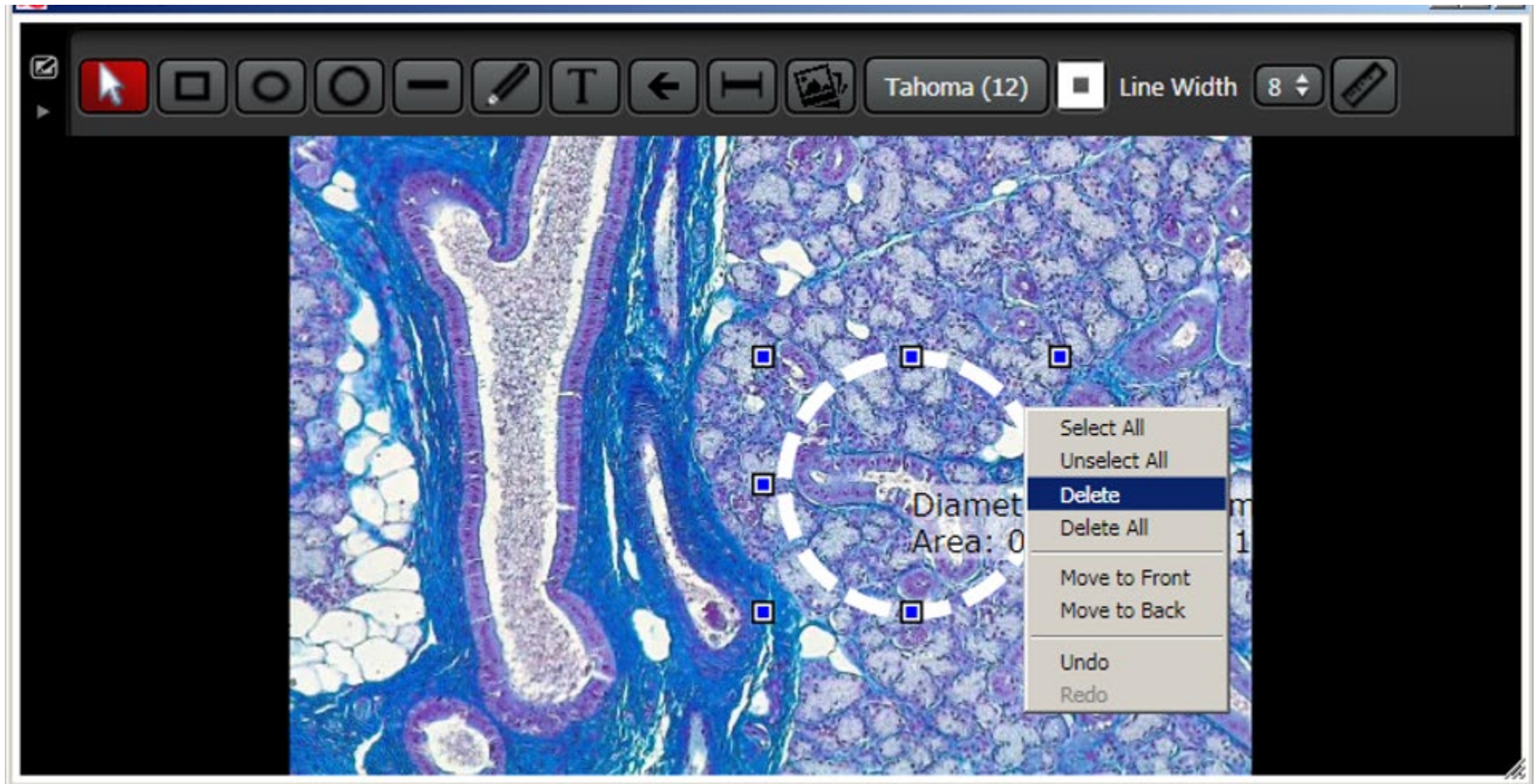
Teacher's Cockpit View

To select an annotation for movement or size change, click the up arrow icon then click the annotation

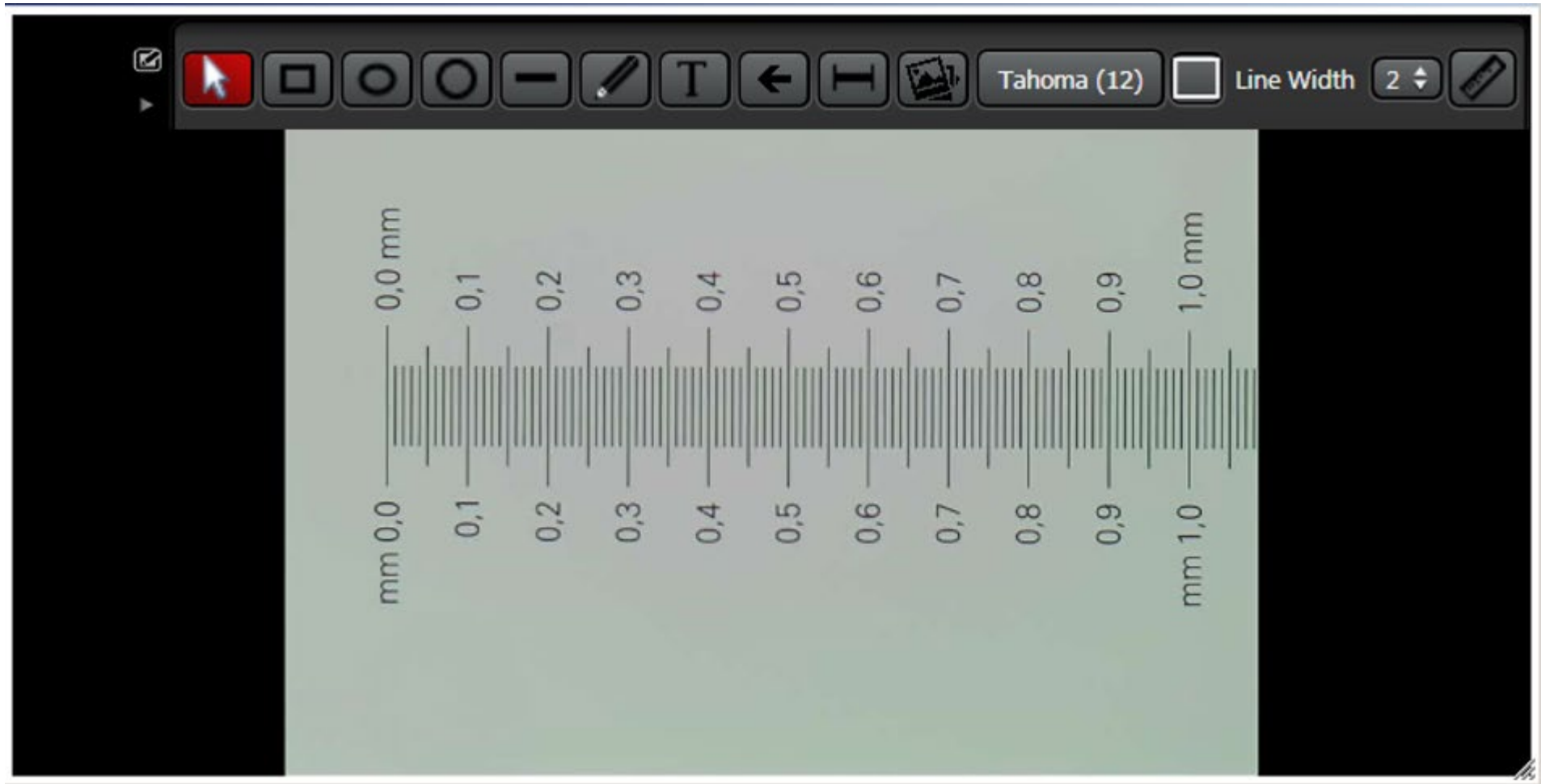


Teacher's Cockpit View

To Delete an annotation, right click or tap, hold, then release the annotation. Then select "delete" from the drop down

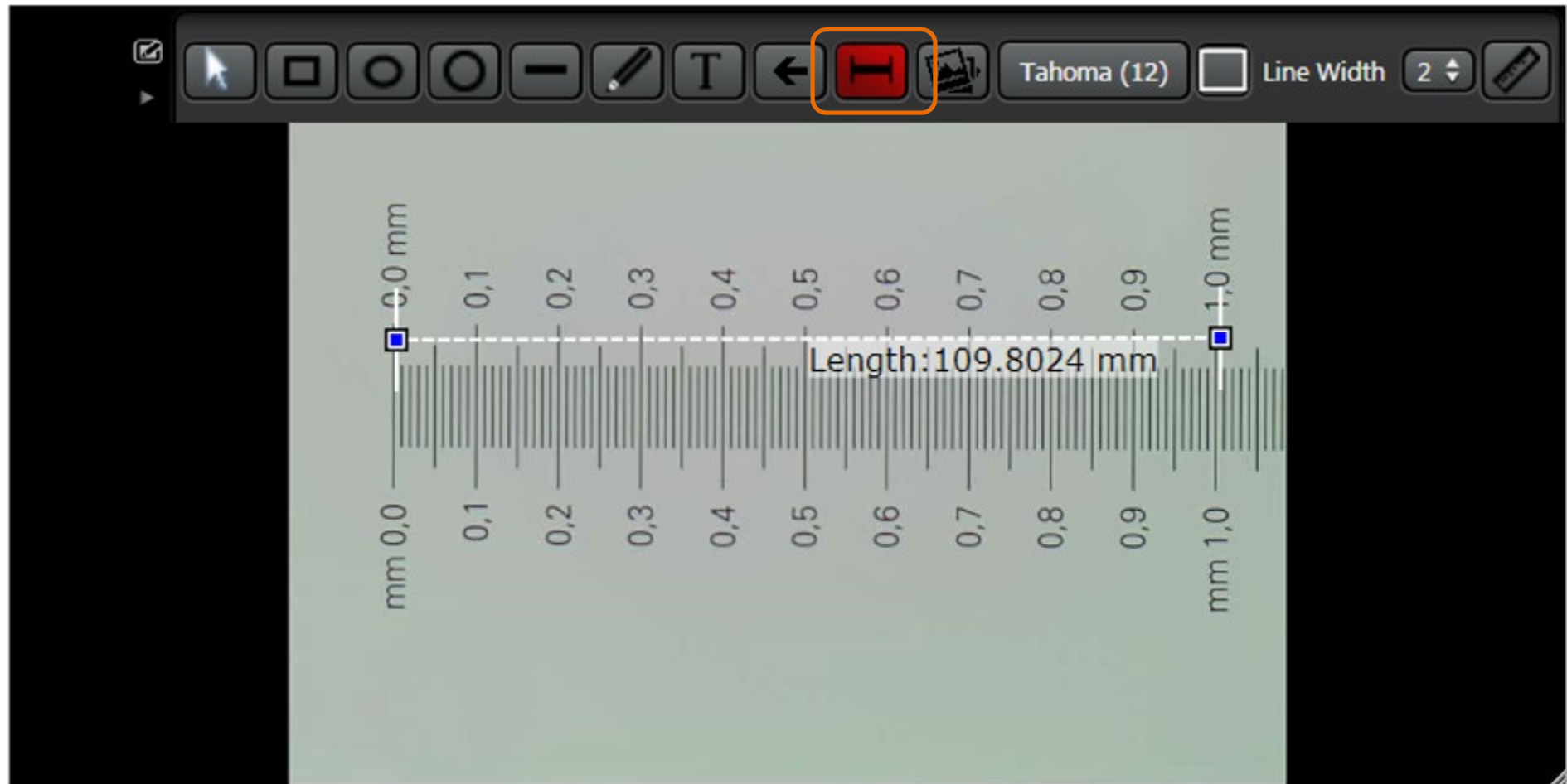


Teacher's Cockpit View Measuring



Place a known dimension in the field of view

Teacher's Cockpit View Measuring



Click the measurement icon and stretch the line across the known dimension. Divide the known dimension by the dimension shown to arrive at the calibration factor:
in this case $1/109.8024 = .0091$

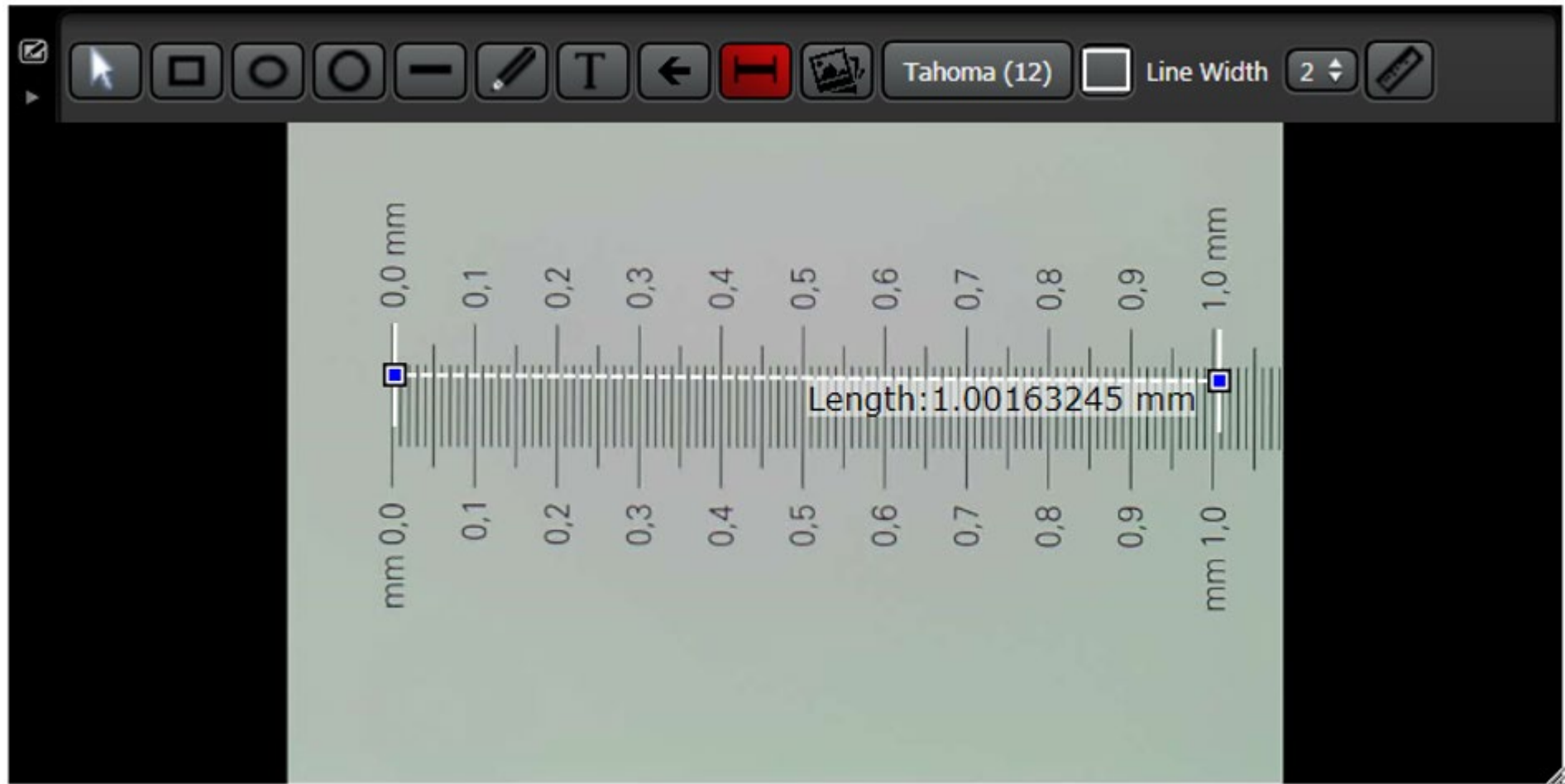
Teacher's Cockpit View

Measuring



Click the Calibration icon and input the calibration factor. For decimals, start with a "0" before the decimal point. Then select units of measure and click "OK".

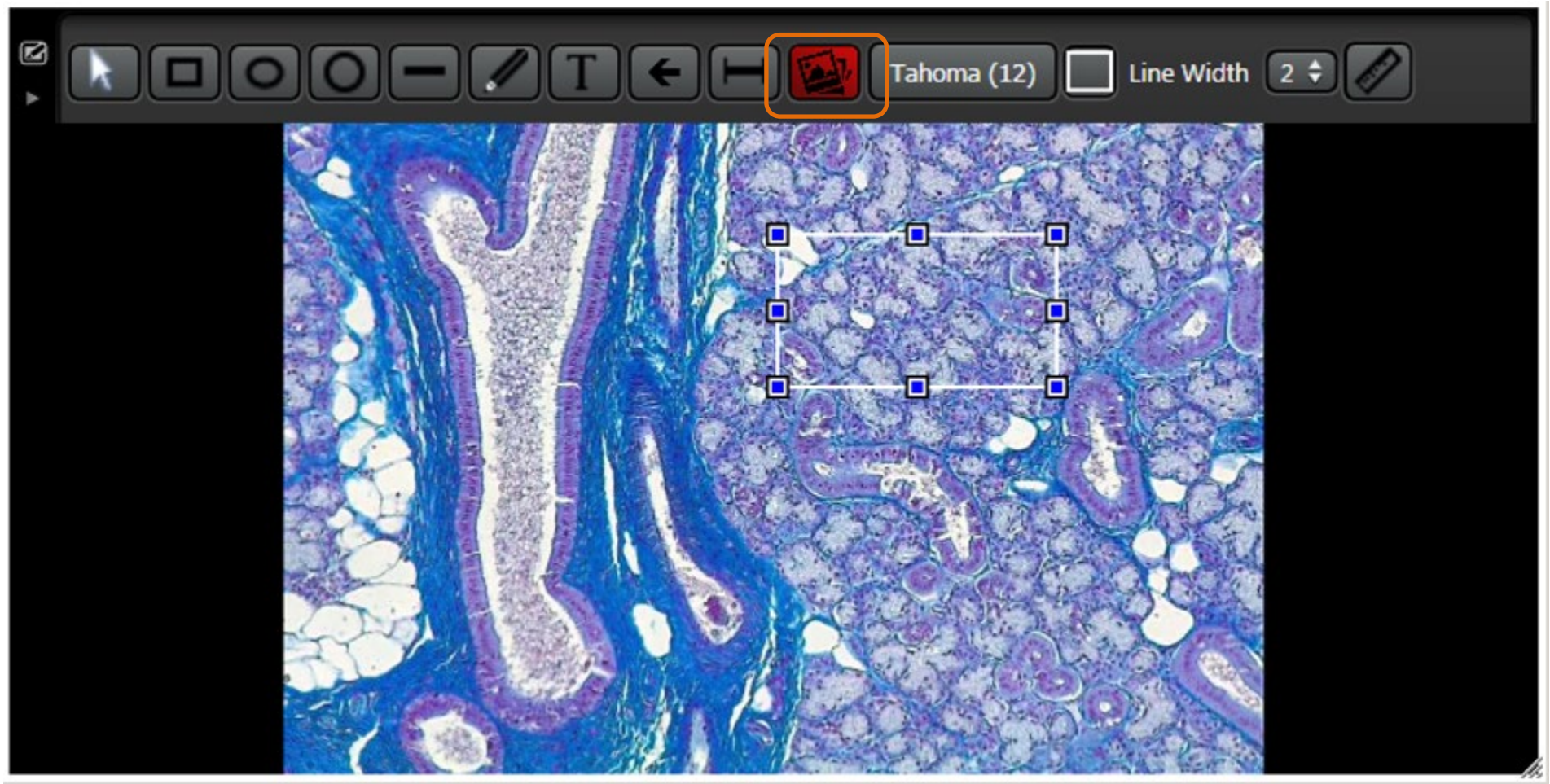
Teacher's Cockpit View Measuring



Delete the original measurement used to create the calibration factor and proceed to make measurements with correct results. The factor applies only to the selected camera and will be remembered after AirTeach is shut down. Calculate a new factor after changing magnifications.

Teacher's Cockpit View

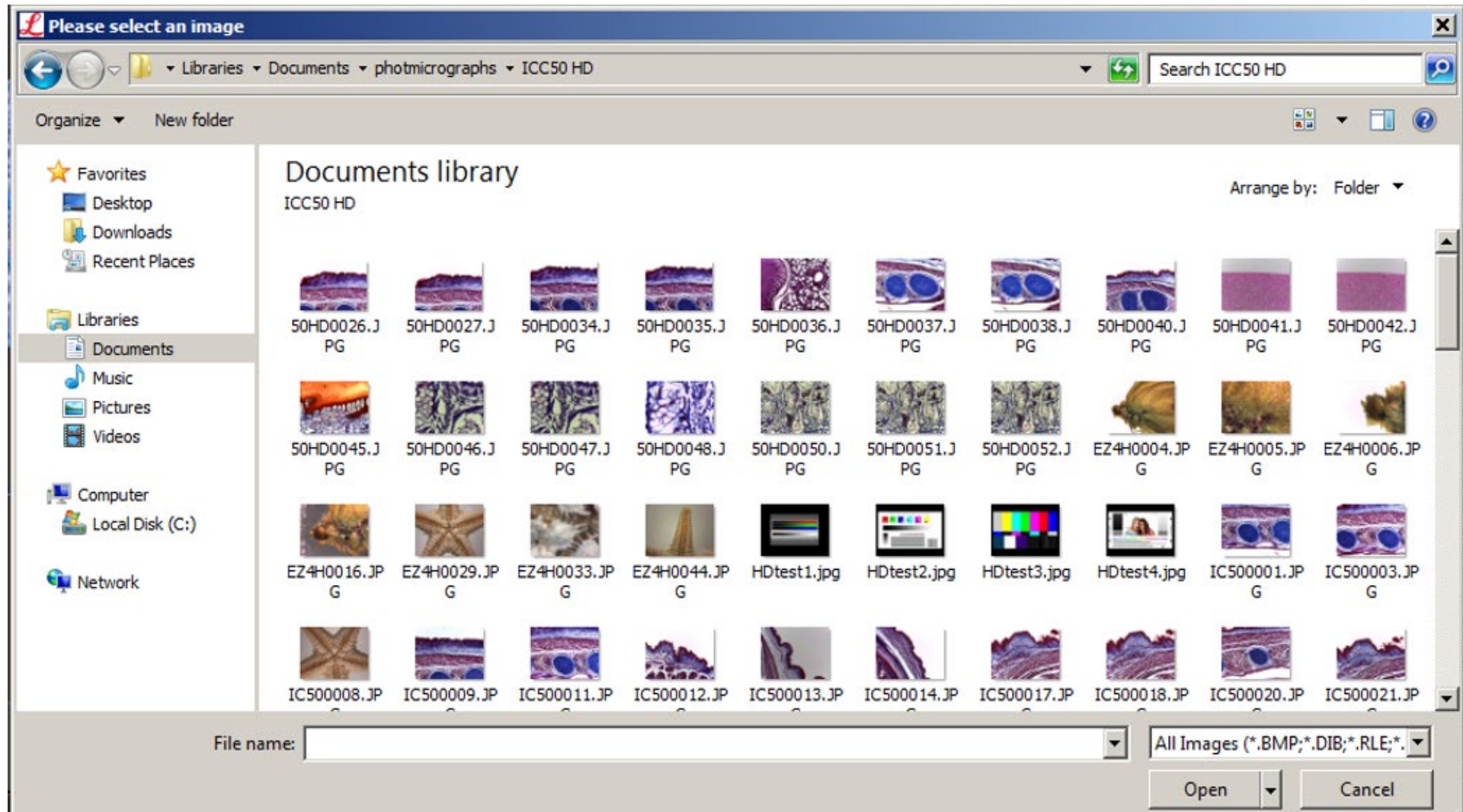
Inserting an image



Click the Image icon and draw a region of interest

Teacher's Cockpit View

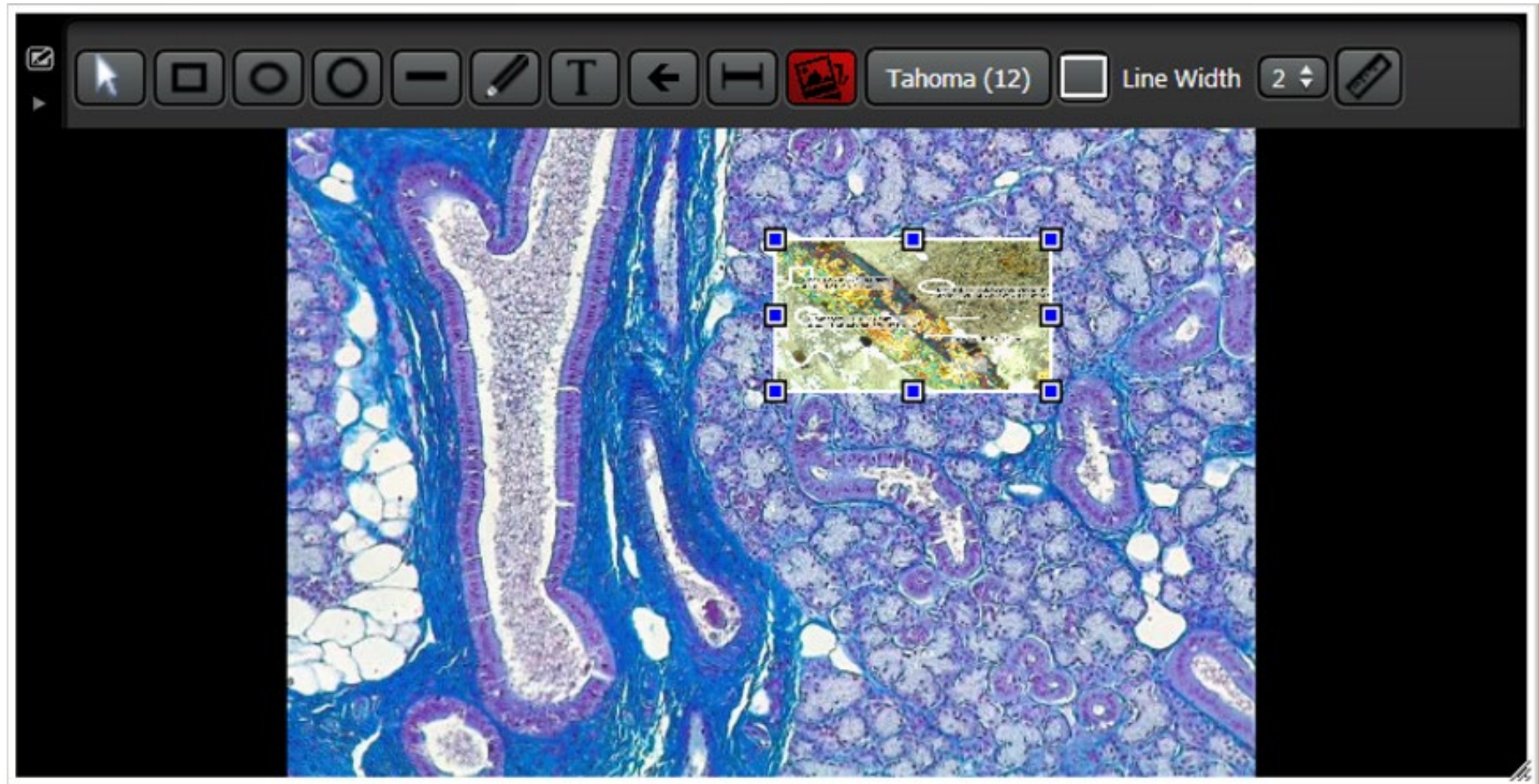
Inserting an image



Your PC browser will pop up from where you can select an image

Teacher's Cockpit View

Inserting an image



Double click on the image and it will be inserted.

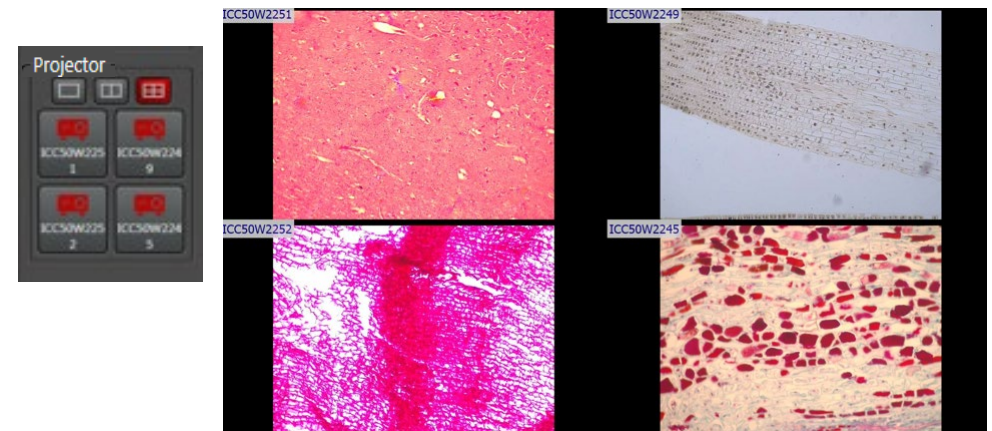
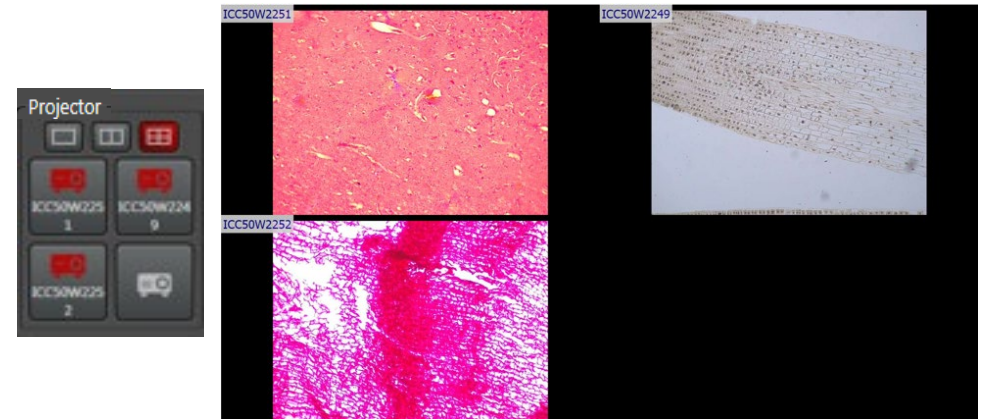
Teacher's Cockpit View

Select number of images to project (1, 2, or 4), click the projector position, then click the thumbnail you want to project



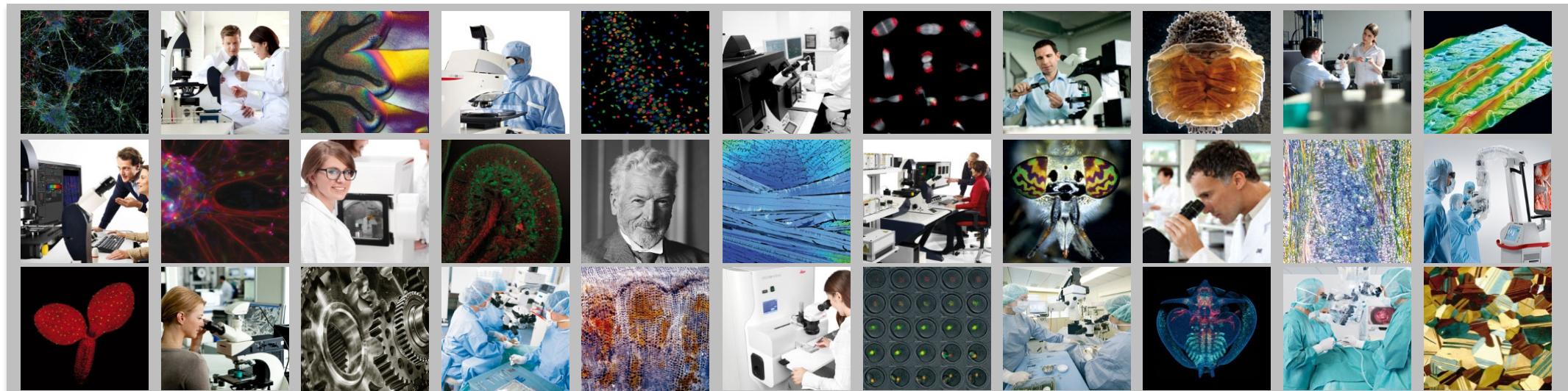
Note:

- The AirTeach PC needs to be configured with an "extended screen" in order for the Projector to show the intended images
- If there is no projector connected, or no power to the projector, or the AirTeach PC was not configured with extended screen, the projector panel will not appear



Trouble Shooting

- IP Address of AirTeach PC shown as "0.0.0.0"
 - Ensure Firewall is turn off
 - WiFi connection of the PC should be disabled
 - Ensure Internet Protocol Version 6 (TCP/IPv6) is selected
(Go to Open Network and Sharing Center >> Change adapter setting >> Right click select Properties >> ensure Internet Protocol Version 6 is checked)
- Camera connected to network not discovered on Air Teach
 - Ensure Lan cable is connected (Light blinking on the camera Lan connection port)
 - Ensure Lan Mode is selected on camera
 - Restart Camera
- Camera unable to connect to existing session
 - Restart Camera
 - Restart AirTeach Session after camera is Switched on - Click on New Session button, Click on Streaming Service
- Projector Control Panel does not appear
 - Check Projector is connected and Projector Power is on
 - Check AirTeach PC is configured for extended screen



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