The TF20 microscope interfaces

The microscope console

Location: right in front of you on the desk

Role: It provides direct control of some of the most important microscope parts:

- Magnification
- Electron dose: spot size (C1 lens) and beam spread (C2 lens)
- Focus (objective lens current)
- Stage position (with the joystick and Z buttons)
- Beam position (with the trackball)
- and many other actions through the programmable switches (L/R1-2-3) and Multifunction X/Y knobs.

Gatan DigitalMicrograph User Interface (DM)

Location: On the left screen

Role: It controls the US10001 Camera.

- the user will use it to :
  - prepare Dark and gain references.
  - during screening, to acquire images in continuous mode.

SerialEM User Interface (SEM)

Location: On the right screen

Role: It provides camera/microscope commands to allow the user to screen its grids and setup an automated data collection.

- The beginner user will use it to:
  - record the Atlases.
  - select squares and prepare the square maps at eucentric height.
  - select targets (position).
  - screen targets at higher magnification (as single image or montage).
  - center the different beam modes all together on the camera axis.

- The expert user will use it to:
  - perform all the actions described above.

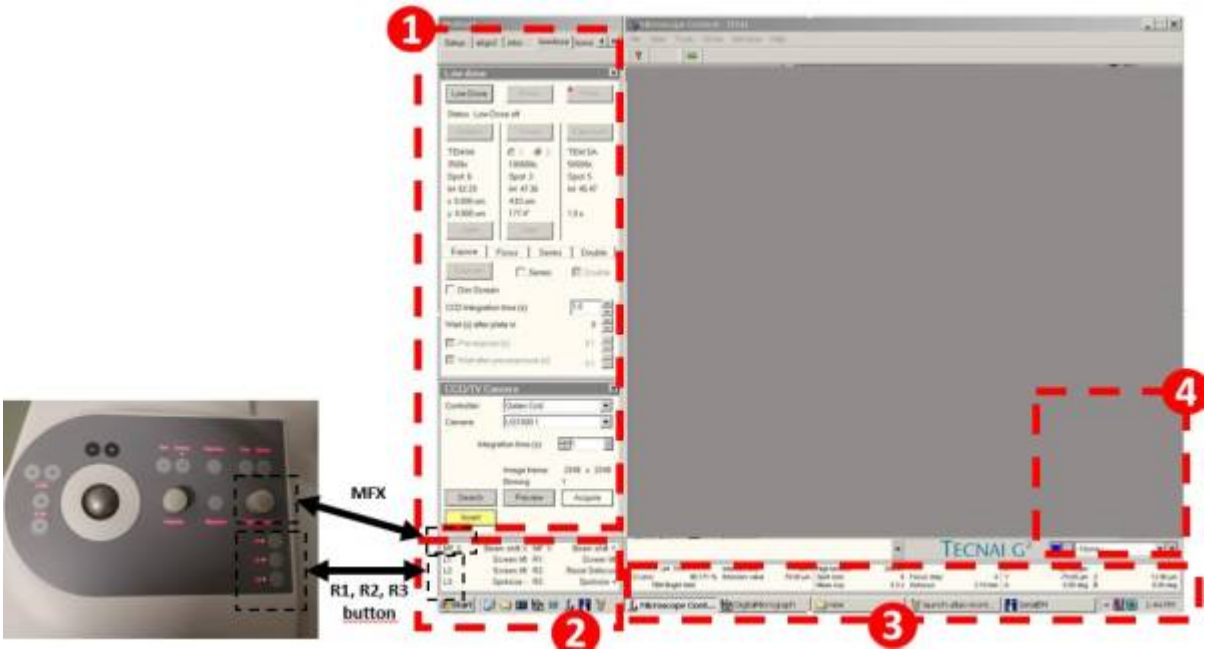
- perform beam corrections (astigmatism, coma-free).
- perform calibrations.

The TEM User Interface (TUI)

Location: On left screen

Role: It controls all the microscope systems.

- It is divided into 4 zones:
  - Zone1: TUI tabbed pages hosting different commands allowing to control the ME and to know its working state
  - Zone2: Window showing EM working state like HT value, stage position, magnification, etc ...
  - Zone 3 : Additional TUI Tabbed page
  - Zone4 : Window defining functions of control panel button:



- The beginner user will use it to:
  - load/unload the grids in the column.
  - change and center the Condenser 2 and objective apertures.
  - control the turbo pump.
  - perform beam-shift adjustments.
  - manually set eucentric height.

- The expert user will use it to:
  - perform all the actions described above.
  - align the microscope.

- troubleshoot the system.
- perform cryo-cycle of the column/autoloader.

The FluCam User Interface (FC)

Location: On the right screen

Role: It allows the visualization of the electron beam and the sample image.

- The beginner user will use it to:
  - record the Atlases.
  - select squares and prepare the square maps at eucentric height.
  - select targets (position).
  - screen targets at higher magnification (as single image or montage).
  - center the different beam modes all together on the camera axis.

- The expert user will use it to:
  - record the Atlases.