**Main Objectives of modifying image processing tool**

1. Track the location of the drop as it falls from the injection needle, by following its shape changeable centroid.

2. Prove the repeatability by applying other experimental sequences.

3. Find a way to skip time-consuming GUI procedure; for examples 1) selecting needle images and ratchets surfaces, 2) questions is “is there any way to skip ‘clearfield image recording’ procedure (image only including needle and ratchets surface area) during the experiments?”

4. Obtain drop volume based on its lateral size and kinematic quantities such as positon, velocity, acceleration.

5. Output all result into an excel table, with information about the frame number and other similar data with one excel table representing one complete set of images

6. Generate various plots such as velocity or acceleration profile as a function time or horizontal/vertical position.