Image Processing

The image processing takes images of the cables after they have been routed. Then the MATLAB script is given images which are cropped from the taken photo. The script gives the order of insulation colours of the cores so that they can be correctly connected.

For more information on the MATLAB script, read the description in the file. For more information on the process, read the final reports in “\9. Deliverables".

# Assumptions

* Unchanging light and camera conditions so that colours are not subject to much variation in images.
  + Achieved by mounting an LED on the connector end-effector.
* The images can be taken from the same place relative to the junction each time so that the script knows where to identify the insulation could patterns every time.
  + Achieved by mounting the camera on the connector end-effector and path planning for this process.

# Indicative Process Images

1. Shows the working line of the script.
2. Shows only the pixels identified as one of the insulation colours, as well as the working line.
3. Shows the average rows for each insulation colour, as well as the workling line.

# Results

100% accuracy with the sample images. The differing light conditions require the range of brown to be altered.