Real X boundary = 1797mm

Real Y boundary = 964mm

Pixel X boundary = 1280 pix

Pixel Y boundary = 720 pix

Cap position at (782, 91)

Step 1: Get “relative” coordinate of x and y

(Meaning the pixel is at 61% of the way of maximum x value)

(Meaning the pixel is at 61% of the way of maximum y value)

Step 2: Use what you got in step 1 to find real world coordinate

(real life coordinate from (0,0) at the top left)

Step 3: shift centre to make the real life coordinate relative to centre (right below the camera)

New origin is at (898.5, 482) from (0,0) at top left. New x and y coordinate will be

So new x, y coordinate from origin at the centre of the image = (199.5, -361)

Step 4: Convert the camera coordinate system into robot coordinate system

+x = -Y

+y = - X

So new coord = (361, -199.5) mm from the camera.