

## User manual: TensionCamApp

Problems controlling the actual clamp load of your bolt joints? Do you spend time and money on check-up and retightening procedures to avoid relaxation effects? Are you worried your wind turbine rotor blades will fall off and lead to disastrous failure? The TensionCam Application is the ultimate tool for technicians operating on wind turbines. With an easy snapshot of a TensionCam nut, you'll be able to find out the number of blobs on the bolts and total area in pixels, enabling you to make corrections before it's too late.

TensionCam Application provides the technicians a safer work environment, minimizing risks and errors.

### Requirements

The application is optimized for the following Android devices

- LG Nexus 4
- Sony Xperia Z

Both devices are running Jelly Bean (4.1 – 4.2 / API 16-17).

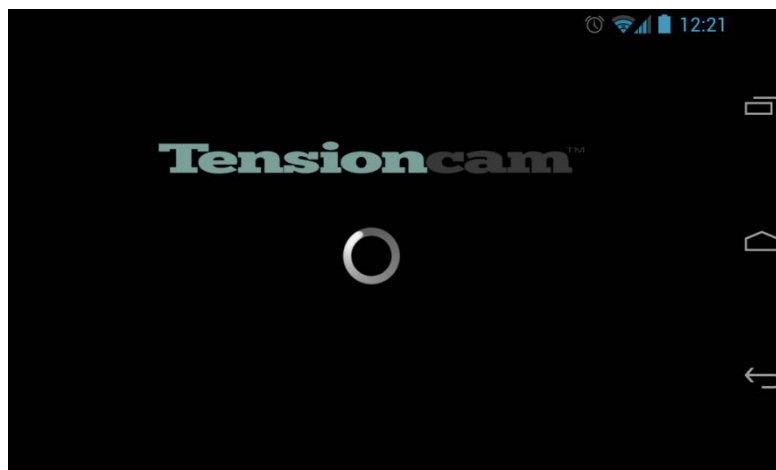
To ensure full functionality one of these devices, or devices with similar hardware and software specifications should be used.

### How to use

The application is limited to a few precise tasks, prohibiting the user from being overwhelmed with functionality that can deteriorate the performance. Therefore, it's very user-friendly and equipped with large, self-explanatory buttons and messages.

### Starting screen

When starting the application, the user reach a starting screen that automatically opens the camera application after a few seconds.



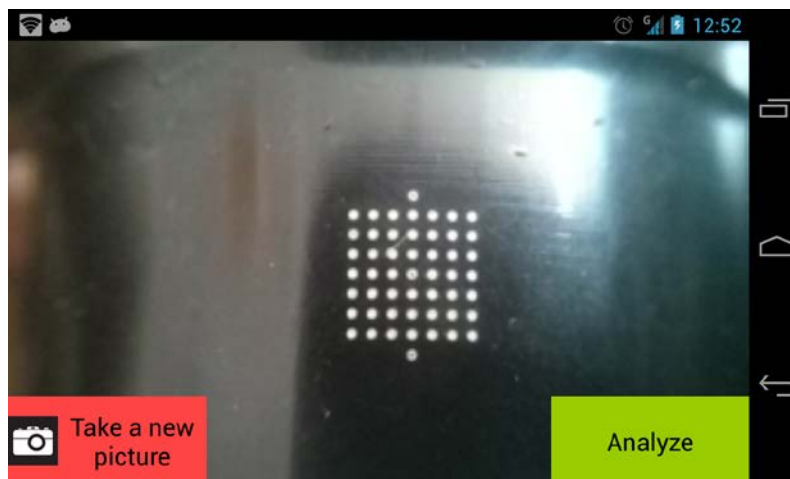
### Camera screen

The user can choose to take a picture, with or without flash, by pressing the camera button. It is not possible for the user to take several pictures, as each snapshot is unique with regard to light and movements.



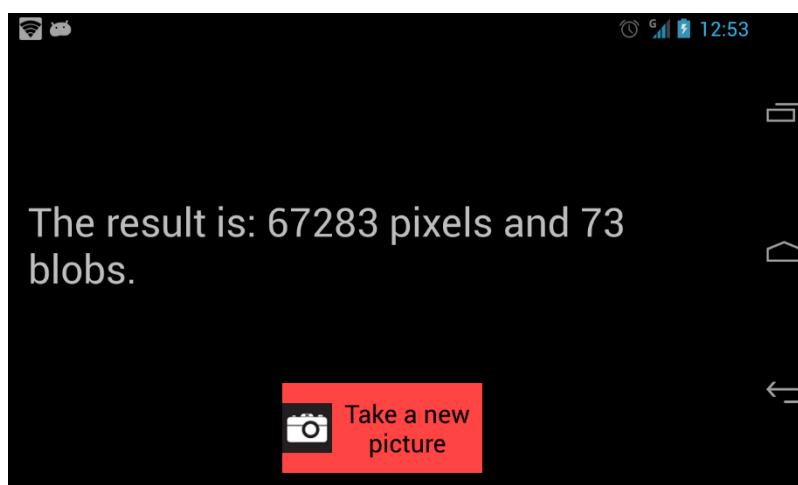
### Viewing screen

The user can view the taken picture and choose to discard and take a new picture by pressing *Take a new Picture* button, or progress by pressing the *Analyze* button.



### Result screen

When the analysis is completed, the result is display and the user can here choose to take a new picture.



### Installing the application

Following steps should be done on your Android device in order to successfully install the application

1. Allow the device to install applications from unknown sources
  - a. This setting is found in 'Settings' -> 'Safety'
2. Download 'TensionCamApp\_project.apk' by using following link or QR-code  
<https://www.dropbox.com/s/zzn2jmn1ob4g39d/TensionCamApp.apk>



3. Open 'TensionCamApp\_project.apk' and press "Install"

### Enable connection to the local web server

To be able to connect to the web server (which at this point is local) there are a few steps that has to be followed.

1. Create a hot spot on the device which should be used.
2. Connect the local web server to the hot spot.

### Uninstalling the application

To uninstall the application on your Android device, standard procedures should be followed. I.e. using the device's default tool for app-removal is recommended.