

# OptoFidelity™ GOLDENEYE

## Display Quality Inspection

Display quality contributes heavily to the overall quality and end-user experience of smart devices. An automated display quality inspection method is important in e.g. incoming inspection of display modules, production testing of display modules, and production testing of final products.



Suitable for  
curved display testing,  
force measurements  
and touch screen  
testing with  
robotics  
— ★ —

## THE SOLUTION

OptoFidelity™ GoldenEye is a display quality inspection tool for checking the quality of high-resolution displays from wearables to even the largest TV screens. OptoFidelity™ GoldenEye is delivered either as a fully assembled cabinet construction, or it can also be integrated into existing test environments.

The GoldenEye solution utilize the years of machine vision experience and the image reconstruction method to make the inspection at a single pixel level. The system supports all machine vision matrix cameras, so one can select an optimal camera solution according to one's needs. It even supports multicamera systems for larger screens or robot moving cameras for more challenging display concepts such as curved screens.

Sophisticated calibration methods is used to ensure that the camera and lens performance is the same between different test stations. Colour calibration is being used in all the high-end phones, tablets, laptops and TVs. GoldenEye supports a wide variety of colour measurement devices, where the correct device is chosen according to the the customer needs.

OptoFidelity™ GoldenEye works in an open Python environment with a built in support for Optofidelity Touch and Test Software, used for robot control. Alternatively the system works in the LabVIEW and TestStand environments of National Instruments. Both of these are using Optofidelity machine vision expertise and sophisticated analysis algorithms.

## BENEFITS

**Extensive defect coverage | A sophisticated test analysis algorithm guarantees fast test cycle time | Simple to set-up and use | Clear defect visualization and reporting | Easily adjustable for different display sizes and resolutions | Support integration to robot systems and multicamera systems | Optimized Smart Factories with data collection and usage of previously tested data | Centralized test station control and calibrated methods for test cells. Same test limits ably to all test station | Simple teaching method for new products | Simplified analysis parameter settings | Possibility to re-run analysis for already tested displays. Display images and results of the earlier analysis parameters are stored in the database. Changes in analysis parameters can be rerun and compared to earlier test runs.**

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## TEST COVERAGE

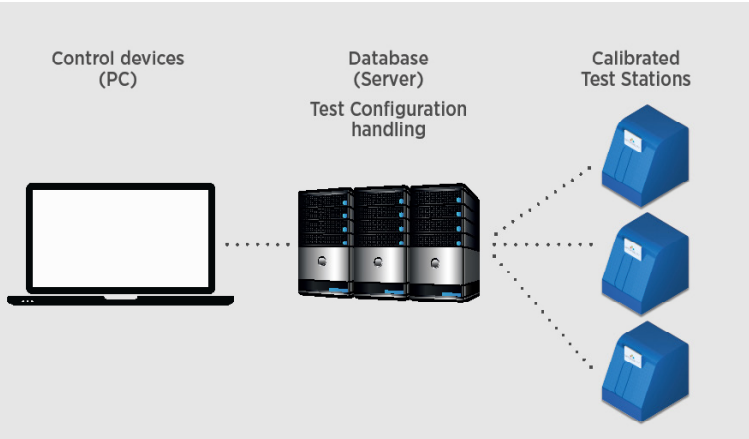
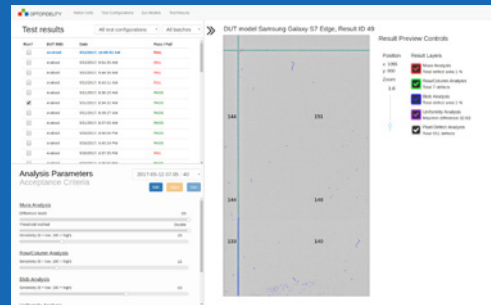
- Verify the quality of the display
- Uniformity
- Line & particle defects
- Pixel defects
- Brightness & contrast
- MURA
- LED hot spots
- Light leakages
- Color Measurement
- Flicker Measurement

## INTEGRATION WITH ROBOT PLATFORM

With OptoFidelity™ GoldenMov robotics, display inspection can be utilized with robot related tests e.g. force calibration, touch accuracy and linearity testing and Push Mura test to name few options.

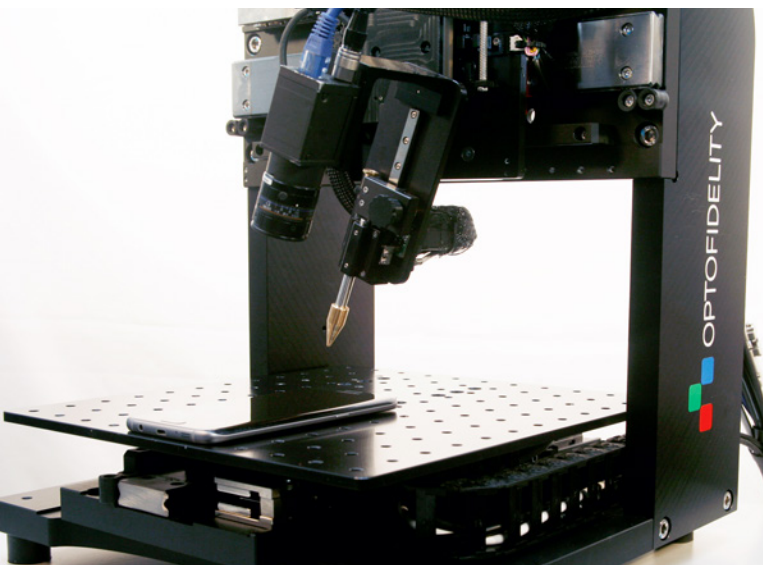
## EASY TO USE MEASUREMENT SOFTWARE

OptoFidelity™ GoldenEye comes with simple to use software with clear defect visualization and reporting. A sophisticated test results analysis algorithm guarantees a fast test cycle time.



## STREAMLINED TESTING WITH CENTRALIZED TEST STATION CONTROL

Centralized settings for all test stations. Test stations are calibrated to be identical. Same test limits apply to all test stations.



At OptoFidelity we strive for the ultimate user experience by simulating and testing user interactions for smart devices. We are recognized globally as a pioneer in humanlike robot assisted platforms, test solutions, and other measurement devices. Our devices are widely used throughout a product's lifecycle from R&D to production. Eight of the top ten largest mobile phone companies choose OptoFidelity for our state of the art engineering solutions and innovative thinking. Now let us optimize your testing process and speed up your product's time-to-market!

**WHAT IS YOUR TESTING CHALLENGE? WE'D LOVE TO HEAR IT!**