



Quality Automation GmbH  
we make innovation visible

## SUCCESS STORY

# OLED RESEARCH FACILITY

Controlling software und traceability for industrial fabrication of organic LEDs.



### OUR PHILOSOPHY



Only if our systems are integrated at the customer completely they develop their entire performance potential. Therefore it is important for us that our customers are integrated in the process from the very first day of the project carry out. Communication is about it the most important connecting part between us and our customers.

#### Customer targets

- Maximum production efficiency and quality
- Stable industrial processes
- Well trained personal
- Low service costs
- Most favorable conditions

#### Definition of a project

The organic LED is more and more found in products of daily life. However the industrial mass production is still a challenge with great potential für optimization. In order to tap the full potential a research facility was designed and realized with the control know how of Quality Automation. Here the data base supported flexibility and repeatability of processes play an important role for our customer.

#### System concept

The plant designed das cluster-tool consists of an inert gas glove-box with a central handling robot for glass substrates as well as different coating tools that add the glass substrates to organic and metal layers.

Within the glove-box an oxygen poor atmosphere with a residual oxygen content in ppm range is created by automation.

Glass substrates serving as medium for the layers of the organic LED are infiltrated in this oxygen poor atmosphere. Within the box the substrates are transported from process station to process station by a central handling robot. Here the glass substrates follow a production flow specified by the recipe management.

Within the process station the substrates are coated with different coating procedures like spin-coating or vacuum deposition and dried in hotplates. The single coating and drying processes are supplied with parameters controlled by the recipe.

#### Traceability in detail

For repeatability of all process parameter regarding achieved product quality a 100 % traceability on product level was realized on the plant.

Every single end-product is equipped with a Dot-Matrix-Code.

By this code all production processes with time stamps as well as parameter and measuring values can be tracked for the single product. Data analysis and reporting at the plant are implemented as well as export possibilities at higher-ranking analysis tools.



**Dipl.-Ing. Friedhelm Steffens, MBA, proxy holder.** Employed as software developer at QA since 2007. Key aspects of activity: Software development, data base, project management

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