# AIMECHATEC, Ltd. awarded the Ichimura Prize in Industry

March 12, 2021
AIMECHATEC, Ltd.

**AIMECHATEC, Ltd. has been awarded the 53rd (or of the 2nd year of Reiwa) Ichimura Prize in Industry by Ichimura Foundation for New Technology.**

**The Prize recognizes technology developers who made outstanding contributions in the development of science, technology, or industrial field. This is the 53rd times of the traditional and prestigious award.**

**◇The Ichimura Prize in Industry for Distinguished Achievement**
**Summary of the Merit**
**Title; "Development of ultra-small-volume, high-precision ink-jet dispensing tool for high-definition display device"**

## 1. Background of the Development

Along with increased demand and enlargement in size of flat panel display (FPD), it has become necessary to develop some mass production technology for cell assembly process of high-definition and large-sized liquid crystal panels utilizing liquid crystal dropping method (One Drop Fill (ODF) method). Meanwhile, because of the higher performance and definition of smartphones and others, the more additional values such as thinness, narrow frame, and high response were required for such applications, they also generated demands for developing the technology for liquid crystal dropping and applicable tools for the manufacturing of high-definition panels. As a result of these development, we applied inkjet technology for the first time in the world, to high-precision, ultra-small-volume liquid crystal dropping for cell assembly process and thereby contributed to mass production and worldwide spread of 4K / 8K and other high-definition panels.

## 2. Brief Description of the Developed Technology

We have developed the dropping technology enabling stable coating of high-viscosity liquid crystal materials in very small-volume, high speed, and high accuracy, as well as applicable inkjet dispensing tool for liquid crystal dropping. By applying this technology, we have achieved ultra-fine drop volume (compared to conventional method ≒ 1 / 10,000) and high-speed coating (compared to conventional method ≒ 1,000 times). In addition to solving problems such as uneven orientation (display unevenness), we have developed and utilized the

related technologies that improve production efficiency and yield rate, thus also contributed to higher quality, lower cost, and energy saving.

## 3. Features and Benefits of the Developed Technology

This technology is contributing to the widespread use of not only 4k/8k high-definition large TV LCD panels, but also of mobile, tablet and in-vehicle LCD panels. In the future, it will become increasingly important for such applications as smart windows, large advertising panels and free-form LCD panels.

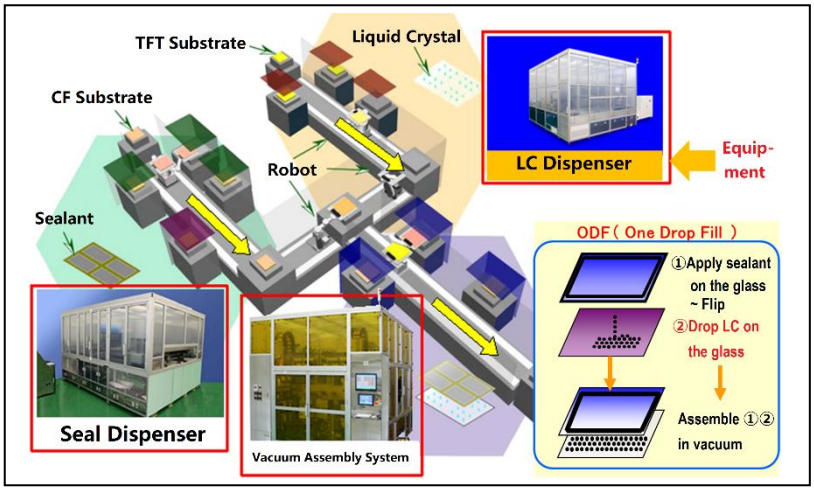


Fig.1 Cell Assembly Process Flow of Liquid Crystal Panel

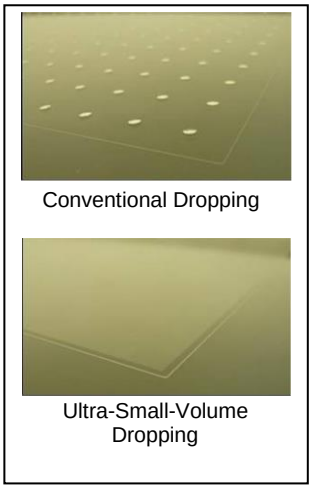


Fig.2 Liquid Crystal Dropping