# What is MicroLED? What's different from OLED? How is the application?

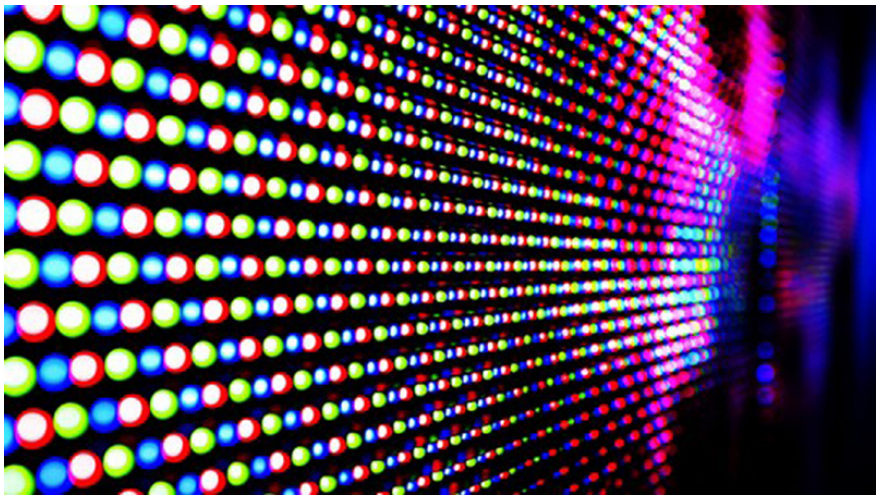
MicroLED is currently one of the most discussed technologies when it comes to screens, whether in TV, computer or mobile device formats.

This article will help you learn about MicroLED, differentiate, compare MicroLED and OLED as well as explore its applications on the market today.

## 1. What is MicroLED?

Also known as mLED or µLED, MicroLED is a flat panel display technology.

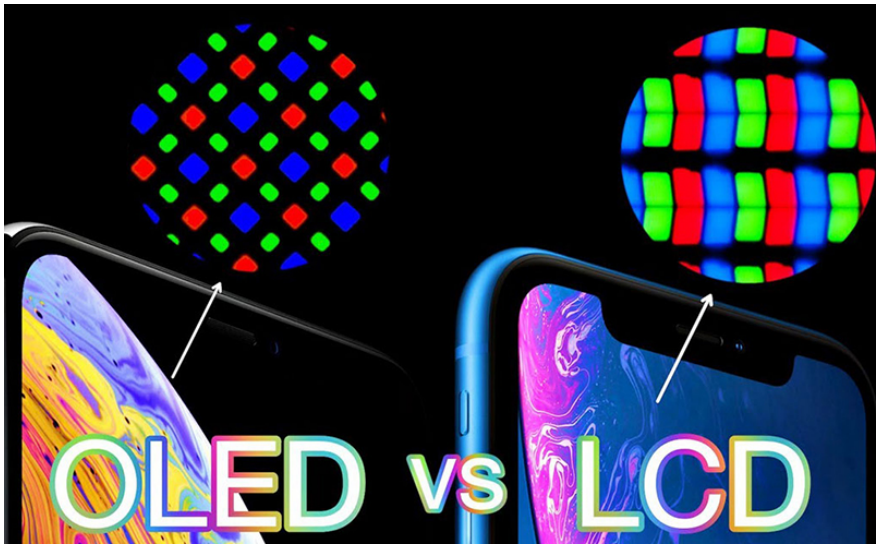
MicroLED screens are made up of microscopic arrays of LED bulbs used to form pixels . Each pixel is made up of 3 sub-pixels with 3 primary colors: red, blue and blue (RGB).



Pixels on MicroLED include 3 primary colors: red, blue and blue

Like OLED technology, each pixel in a MicroLED display is self-illuminating without the need for a back-illuminated panel like the LCD screen . This makes MicroLED displays more energy efficient, higher contrast and higher frequency response than LCD monitors.

In addition, these LED bulb arrays are placed on a TFT panel . This panel helps power the screen and controls the brightness of the pixels. By applying this principle, MicroLED technology and OLED technology can create devices to display curved screen TVs.




The sharpness and distribution density of OLED pixels compared to LCD

## 2. How is MicroLED different from OLED?

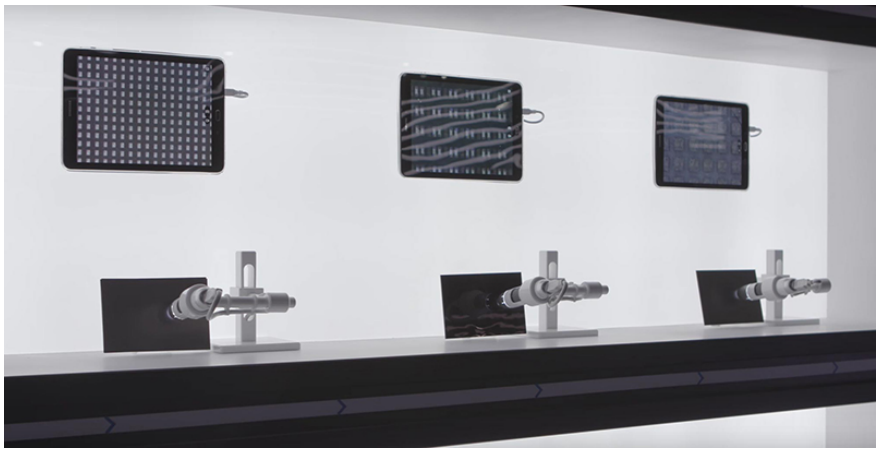
In a short period of time, it is possible to judge that MicroLED and OLED screens produce similar image quality and MicroLEDs produce brighter images.

However, considering the structural characteristics, long operating time and prospects in the future, we can see a relative difference between these two technologies.

### 2.1. The strength of the OLED display

The downside of MicroLED displays is currently the huge strength of OLED displays.

Because MicroLED needs a lot of LEDs to be able to create a high resolution screen, this takes a lot of money and time. In contrast, OLED contains just enough LEDs for a sharp screen. And while existing OLEDs have pixels of different size for different screen sizes, MicroLEDs can only add more pixels of the same size to create larger and higher-resolution televisions.



Module number of conventional LED (left), OLED (center) and MicroLED (right)

Besides the manufacturing factor arguably the most important advantage of OLED, the technology also has an infinite contrast ratio, perfect blacks, excellent viewing angles, and an extremely bright display. It can be said that OLED is a pretty or even great choice in the price range, until MicroLED can fix the flaws when it comes to large resolutions like television.

### 2.2. The strengths of MicroLED displays

However, in the future, the MicroLED screen is completed and will make a huge difference.

The reliance on organic compounds of OLEDs leads to "deterioration in brightness over time". Worse still, when OLED screens are used for a long time, some compounds are more likely to lose brightness faster than others, producing uneven images.

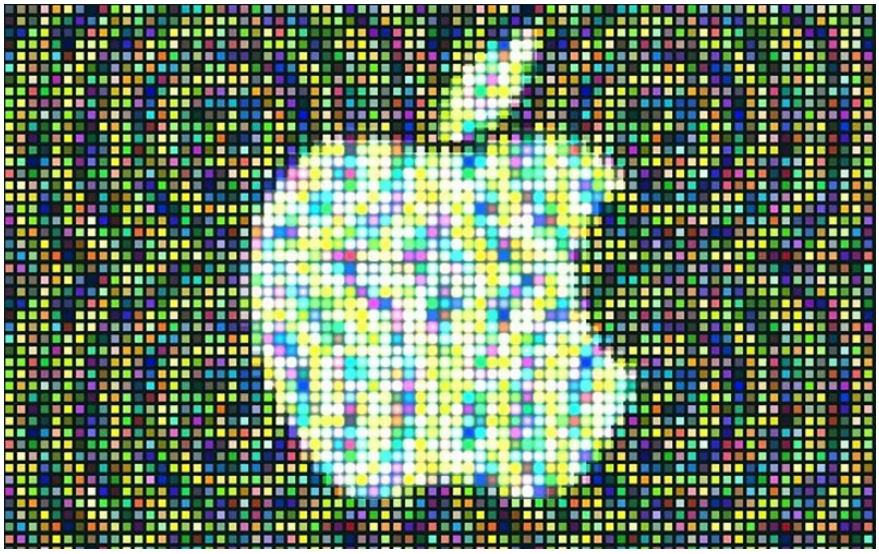
MicroLED displays are thin and sharp to every detail

On the contrary, LEDs in MicroLED will only get brighter and brighter only day by day due to no natural degradation. In the long run, MicroLED is capable of preserving image quality and maintaining outstanding brightness and possessing much higher energy efficiency than OLED.

Last and foremost, MicroLED's mechanism of action allows for the production of sharp, yet incredibly thin and delicate displays. This promises to be the future advanced production and display trend, pursued by many technology companies.

## 3. Application of the MicroLED display

Although it has appeared on the market since 2014, MicroLED technology is still being applied and developed by technology giants such as Apple,  Samsung , LG, . According to experts, MicroLED can will make a huge breakthrough in image quality and screen thinness in the future.



Apple, LG, Samsung, . are the silent big boys in the MicroLED race

Most of the current microLED technology is only in the stage of research, testing and display, but has not officially been commercialized on the market. However, there are also contributions from: Sony's' Crystal LED 'display in 2012, Samsung's CES 2018 event and the 146-inch' The Wall 'television, 173' microLED screen of LG, . In addition, the big  Apple is  also incubating to integrate this technology in the Apple Watch format  .

We also have the right to hope that a MicroLED TV with an ultra-thin, sharp, durable screen will appear in the near future.

?
Samsung's "The Wall" TV launched in 2018

Above is the article about MicroLED, distinguishing MicroLED from OLED and the applicability of this technology. The Gioi Di Dong hopes to provide readers with useful and quality information.