

How Samsung Revolutionized Mobile Display

Life-like Colors

What We Heard

The advent of smartphones changed everyday communications. As people increasingly shared their lives through photos and videos, they wanted a display that can show their experiences in vibrant, life-like colors.

WHAT WE MADE

AMOLED Display

To enhance colors and contrast on smartphones, we adopted AMOLED display technology. Individual pixels can be switched on and off in an AMOLED screen, which allows it to deliver infinite contrast ratio, as well as a wide color gamut. The display technology is also slimmer and consumes less power, enhancing the overall smartphone experience.

Following Samsung's introduction of the first Super AMOLED display smartphone in 2010, AMOLED display technology has become the industry standard.

The Bigger, the Better

What We Heard

Improvements in features and capabilities meant that smartphones have become a central part of people's lives. But the small display size often limited their productivity on mobile devices.

WHAT WE MADE

We decided to create a new category of smartphone to meet the demand for a bigger display. The Galaxy Note's 5.3" display initially raised eyebrows when it was launched in 2011, as the average display size was around 4" at the time. But the Galaxy Note proved to be a first in the phablet market, popularizing smartphones with large displays.

Not only did the Galaxy Note's larger display provide an immersive multimedia viewing experience, users could also see more and create more with less scrolling. The new productivity tool, S Pen, even allowed users to express themselves more creatively while boosting their output.



Expanding Horizons

What We Heard

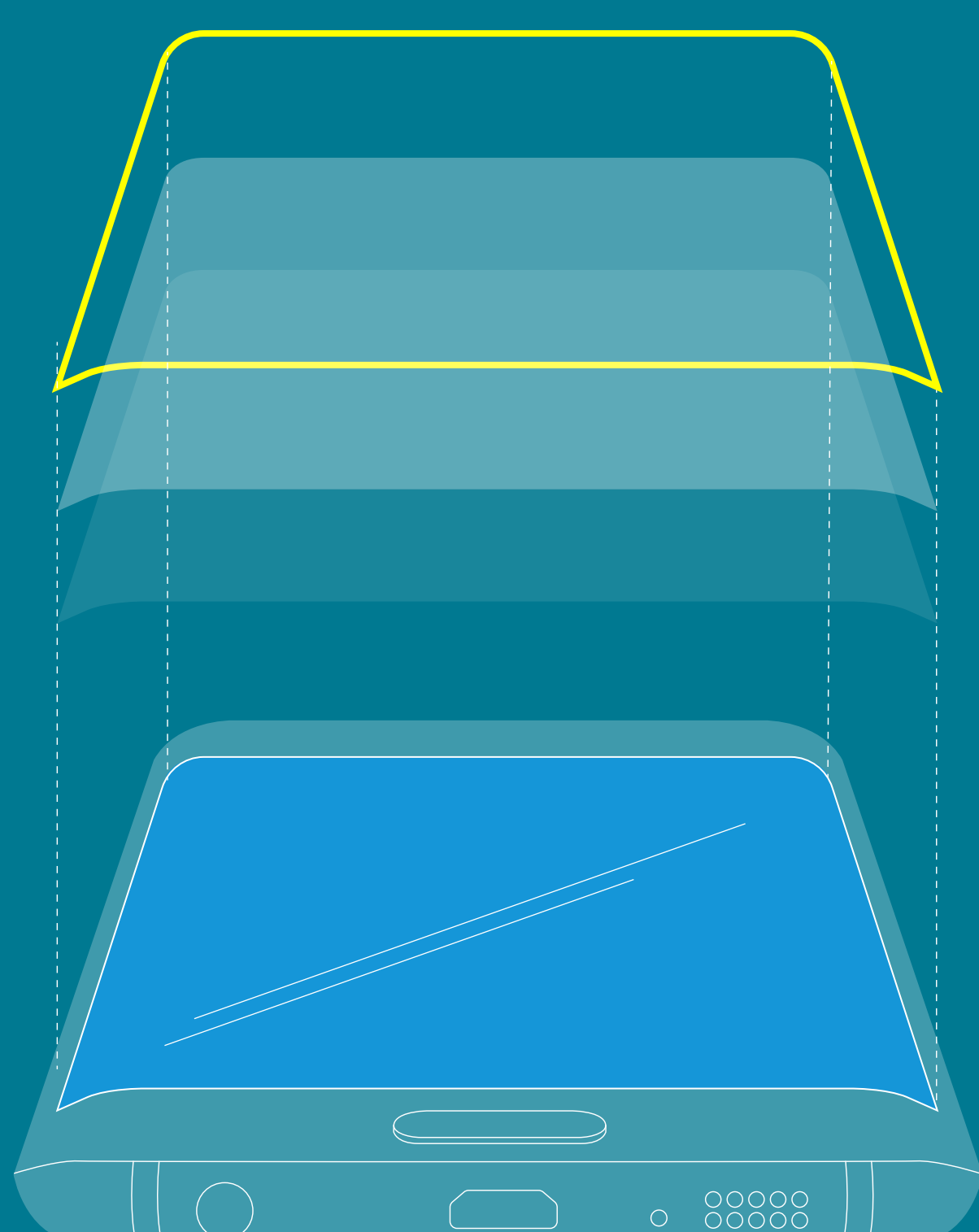
Portability became an issue as mobile screens got bigger. We found that while people enjoyed the larger screens, they had trouble fitting their phones in their hands.

WHAT WE MADE

The Edge Display

Our idea was to create a curved display to offer a more comfortable grip while increasing the display surface area. To make the screen more pliable without breaking it, we replaced the backplane of the AMOLED display with a flexible material called Polyimide and developed our own 3D thermoforming technology to shape the top protective glass layer of the display.

The Edge display was first featured on the Galaxy Note Edge and evolved to Galaxy S6 edge, curved on both sides, and then to Galaxy S7 edge, curved on the top and bottom as well.



WHAT WE MADE

The Infinity Display

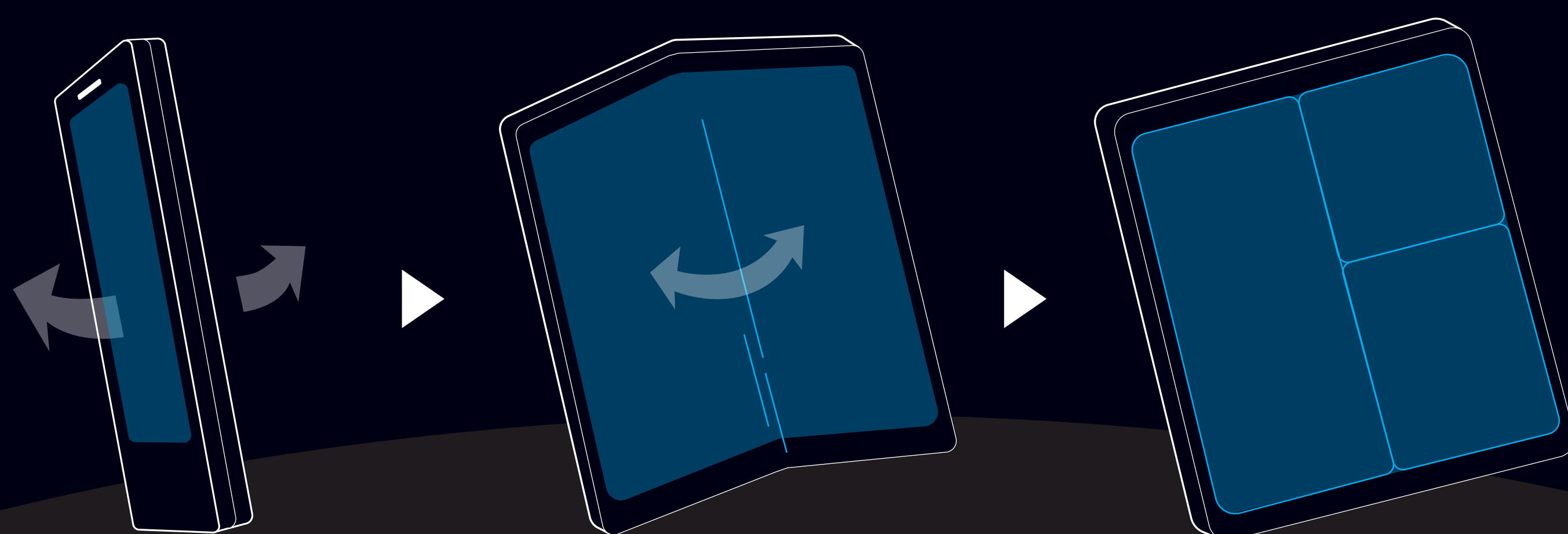
Using the flexible display technology, we took a further step to minimize the bezel around the display. By extending and bending the panel, we were able to place the key components that used to be in the frontside of the device to the backside of the display. By doing so, we were able to create the Infinity Display, which allowed us to increase the display size without having to increase the dimensions of the device.



The Infinity Flex Display

What We Heard

In a fast-paced world where multitasking is prized, mobile displays need to be capable of offering diverse experiences and adapt to different demands. As the popularity of the digital nomad lifestyle grows, there is a need for a new form factor that can deliver new experiences with a bigger display while still maintaining portability.



WHAT WE MADE

What if smartphone display can change in size? With this question in mind, we began to develop a new category of smartphone that could create entirely new ways of using the smartphone.

Building on our past display innovations, we created a new form factor that can seamlessly unfold from a pocket-sized smartphone into a 7.3" display. Since glass is not pliable, we developed a new material for the cover window that's flexible and durable. And to ensure the reliability of the display, we found a unique adhesive that enhances the display's elasticity and keeps its strength even when it's folded and unfolded over and over again.

Along with hardware development, we also created a new user experience to maximize the groundbreaking form factor. The app experience seamlessly transitions from the smaller display to the larger display as the device unfolds. In addition, users can browse, watch, connect and multitask without losing a beat, simultaneously using up to three active apps on the larger display.

From viewing multimedia content to multitasking, the Infinity Flex Display of Samsung fundamentally transforms every signature Galaxy feature, providing a blueprint for the future development of mobile display.

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