



E-Paper in Transition:

Harnessing Innovation, Driving Adoption, and Addressing Practical Challenges

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My Journey & Perspective



A Brief History of E-Paper

The concept of electronic paper emerged in the 1970s, when Xerox PARC researchers explored displays that could mimic the readability and flexibility of paper.

1970s

Researchers in MIT Media Lab developed microencapsulated electrophoretic display (EPDs), tiny capsules with positively and negatively charged particles suspended in fluid. This became the foundation of E Ink.

1990s

Sony launched the first E Ink product, the LIBRE e-reader.

2004

E Ink Holdings (Taiwan) acquired E Ink Corporation becoming the global leader in electrophoretic technology.

2009

1975

Tiny plastic beads suspended in oil that rotated under electronic fields to show black or white. It was flexible and reusable, but too costly for mass production.

1997

E Ink is founded to **commercialize** the MIT technology.

2007

Amazon Kindle is released and quickly popularized E Ink globally.

2020s-Today

Applications expanded beyond e-readers into smart labels, shelf tags, signage, watches, and smartphones. Modern E Ink technologies include Advanced Color ePaper (ACeP), E Ink Gallery 3, and Spectra series for digital signage.

E-Paper Overview

Sizes

Small-Format 1.54", 2.13", 2.7", 3.7"

Mid-Format 4.2", 6.0", 7.5", 9.7"

Large-Format 13.3", 25.3", 31.2", 42", 50", 60"

Gateways

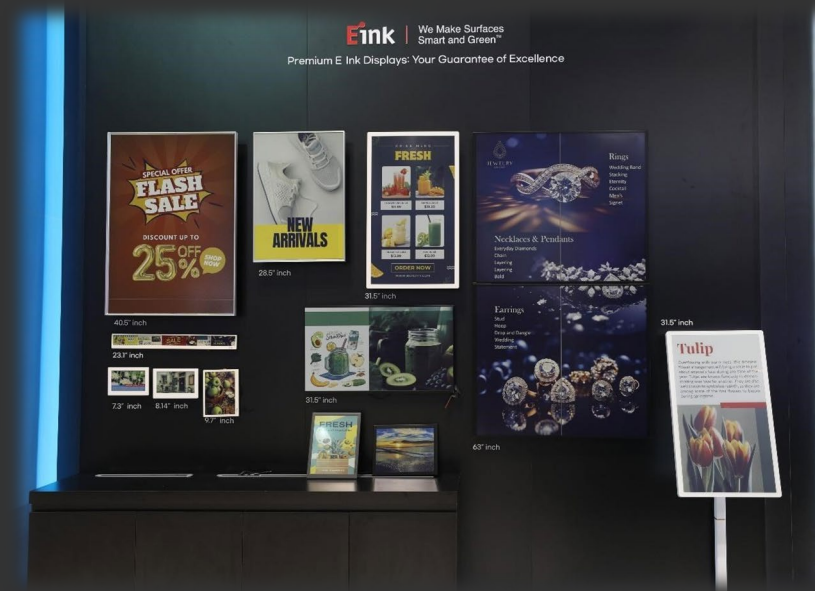
Embedded Gateway (Onboard) versus
External Gateway (Hub-based)

Colors

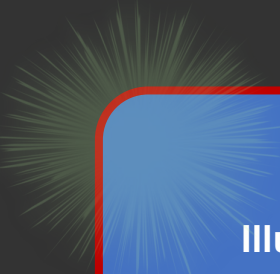
Monochrome: Black and White

E Ink Spectra 3000 / 3100 / 6: 3-6 Pigment

E Ink Triton / Gallery / ACeP: Up to 50,000 Colors



Key Challenges



Illumination

High Relative Cost

Slow Refresh Rate

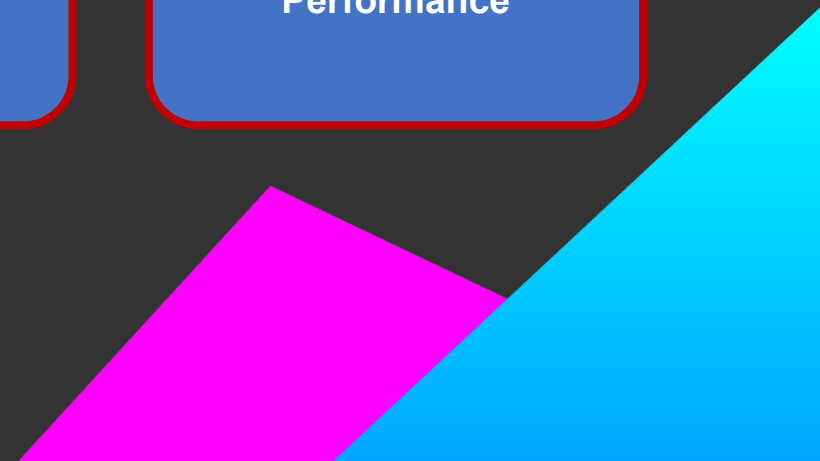
Fragility and Durability

**Supply Chain
Limitations**

Integration Complexity

Software Ecosystem

**Inconsistent Power
Performance**





Commercial Productization





Q&A

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