How Digital Paper Is Changing Construction

So much of modern society depends on effective and efficient construction projects. From the hospitals and schools that provide healthcare and education to the stores, road networks, and restaurants we use every day, and even our own homes, construction supports all our lives.

And yet sometimes, the technology that drives construction forward is not about building materials or heavy-duty equipment. It can be as simple as digital graph paper or other types of digital paper tech.

In this article, we're going to look at this in more detail, examining how digital paper is changing construction for the better.

Enhancing Safety

Safety is always the primary aim on any construction project. Project managers, site visitors, nearby residents, and the construction workers themselves — everyone has the right and expectation to be protected from harm. While construction site safety has certainly increased greatly in recent decades, technology like digital paper is helping to enhance this further.

The most obvious application of digital paper in worksite safety is found in digital signage. Digital paper ensures that signs are clearly visible to all and are easier to see and read than more traditional LCD and LED screens. As signage units integrate with centralized software solutions, they can be updated either remotely or manually on-site, reflecting new hazards or status changes as they emerge.

Solutions like the EPD-4200-B1 ePaper outdoor open frame monitor are particularly valuable here. With high resistance to both solid particle and liquid intrusion, as well as a robust drop-, shock-, and vibration-resistant design, this product can resist the wear and tear of a busy construction site. Safety messages can be delivered clearly, regardless of the environmental conditions.

Reducing Operating Costs

The safety solutions discussed above are only useful if they are always on — running around the clock to protect personnel on and around the site. When this is extrapolated over multiple signs across multiple sites, the operating costs quickly add up.

This is another area in which digital paper is far superior to LCD and LED options. Digital paper solutions require significantly less electricity to run, keeping energy costs manageable and allowing construction firms to scale without compromising on safety.

Improving Sustainability

Energy usage doesn't just impact the budget of a construction project; it impacts the carbon footprint too. At a time when the climate crisis regularly makes front-page news and governments across the world are working to improve sustainability, green technologies are becoming increasingly vital in construction.

The reduced energy requirements of digital paper make it ideal for fostering sustainability on the worksite. When digital paper is used in industrial computing solutions — i.e., solutions designed to stand up to the rigors of everyday deployment in the field — sustainability is enhanced even more. As these solutions are built to be robust, they do not need to be replaced as often as standard IT systems.

The EPD-4200-B1 solution, mentioned above, certainly provides both low-cost and high-sustainability operation. However, other signage solutions offer this too. The EPD-42T public display board, for example, requires far less power than a standard LCD or LED screen device and is therefore both cheaper and greener to run.

Integrating with the Broader Supply Chain

Construction projects do not exist in isolation; they are part of a sophisticated supply chain. Tools and materials arrive on-site from a multitude of different suppliers, and the final project deliverable is created for the client. This means project managers need to be able to sign off on new deliveries, assess current inventory levels, and place new orders without delay.

Digital paper tablets make this simple. The technology integrates with inventory management systems, order platforms, compliance software, and other solutions, ensuring that all data is updated in real time. The lower power usage of digital paper means that hand-held tablets remain operational for longer between charges, increasing the efficiency of on-site personnel.

These personnel also find that digital paper is far easier to use than an LED or LCD tablet device. Whether reviewing charts on digital graph paper or making inputs themselves, the experience of using this technology is similar to that of using physical paper. This reduces inaccuracies in datasets, as personnel are able to concentrate on their tasks for longer without fatigue.

The HannsNote2 tablet device is a good example of how this can work. Personnel can easily carry the lightweight and slimline tablet with them while they work, while the lithium-ion battery enables long periods of usage between charges. The anti-glare screen makes the tablet operable even outside in bright sunshine, and the zero blue light emission technology reduces fatigue by protecting the user's eyes.

Supporting Better Monitoring and Assessment

Fatigue reduction actually has wide-ranging benefits. As well as signing off on and placing orders, construction site personnel need to monitor and assess a broad variety of different data points. These may include:

- The age of equipment in the field and the time since the last service
- The performance levels of equipment and human teams
- Testing and inspection results
- Compliance with local and national regulations
- The budget assigned to each phase of construction and the true cost
- The timeframe projected for each phase and the true duration
- Climatic conditions and potential hazards
- And a large number of other data points

The relative ease of using digital paper over LED and LCD screens makes it easier to achieve comprehensive and accurate monitoring over an extended period. What's more, digital paper devices such as the ENT-13T1 tablet (Sales Area: US/JP only) can integrate with Internet of Things (IoT) devices, making precise and accurate data available right from the source.

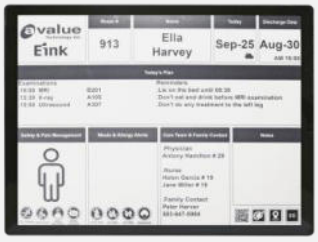
Find the Digital Paper Solutions You Need for Your Next Project

Here at Avalue, we deliver digital solutions to a wide range of different industries, from healthcare and manufacturing to retail, transportation, and of course, construction. Browse our range to find the digital paper solutions you need for your next construction project: E-Paper Displays and E-Paper Panel PCs.

Related Products

Avalue EPD-4200-B1

- 42" ePaper Outdoor Open Frame Monitor
- Outdoor ePaper Display Kit
- 1 USB / 1 12V DC-in as an Extended USB Display
- Front IP65, back IP64, designed for outdoor.



Avalue EPD-42T

- 42" E Ink Monochrome ePaper Display
- Built-in Touch Screen
- High Performance i.MX 7Dual Processor
- Ultra-Low Power Consumption
- Ultra-Wide Viewing Angle
- No Power Needed to Maintain Display Image
- Sunlight Readable and Doesn't Require a Backlight