



## 5G Smart Surfaces

EES essentially enhances wireless applications by filtering, blocking or reflecting radiofrequency (RF) signals emitted at a selected frequency, including new 5G networks, while remaining transparent to RF signals emitted at other frequencies.

The concept is simple yet powerful - a sheet of plastic with metallic ink strategically placed, either visibly or non-visibly, that manipulates signals to improve wireless connectivity and efficiency with very high specificity. They can cover dead zones, extend and evenly distribute signals to match the needs and capacity of the intended environment, optimizing connectivity accordingly.



## Electromechanical Systems

Electromechanical systems projects with e<sub>2</sub>ip call on the team's full breadth of mechanical, electrical and software expertise to provide customers with custom complex assemblies. They can act as peripheral systems to your existing products, designed and engineered to expand operational efficiencies. A system like this can integrate various different touch technologies, such as capacitive, mechanical, software and touch screens into one unit. These assemblies can be designed to perform a customized set of many available functions, and ultimately seek to extend the utility of broader systems or structures already in place.



## **In-Mold Electronics (IME)**

In-Mold Electronics (IME) are the revolutionary result of combining the in mold decoration (IMD) process with various printed electronics technologies in any desired mix, culminating in a 'smart molded part' that transforms control panels into smart, curved surfaces.

The surfaces can integrate lighting, decorative overlays, user interfaces and much more, for a functionally enhanced finished product. Not only is it the most advanced e2ip offering, but also the most advanced offering in our industry. It unites and showcases the full range of e2ip expertise and technology as a powerful premium package. IME is truly the future of HMI.



## Membrane Switches

Membrane switches and keyboards come in many different configurations but are generally used to control different kinds of circuits. These technologies, while offering complete customization, all start with a simple design: layered circuits, spacers and adhesives housed between a strong base and a protective, functional top interface layer.

e2ip has spent three decades finessing membrane and silicon keypad technology - the core of its business - with thousands of units fully designed and produced in-house. The key takeaway from these years of experience is that while it will suffice as an entry-level solution, one should not mistake this technology as something to be overlooked, particularly when configured in assembly with additional innovative technologies.



## Embedded Systems & Applications

Designing and enabling for connected touch interactions brings new life to previously isolated products, allowing new levels of customization and control to be achieved.

These add-on HMI modules allow for the integration of more advanced elements such as LCD interface technology, storage and processing of data, Wi-Fi, Bluetooth, USB and more, to your HMI assemblies, so that you can meet the connectivity needs that are increasingly demanded of all modern interfaces and smart surfaces. These modules are fully integrated into existing systems, for deep and complete embedding in the Original Equipment Manufacturer (OEM) product.