



A SUCCESS STORY



TOWARD THE PROTOTYPING OF **SMART OVERMOULDED PARTS** IN PRINTED ELECTRONICS BASED ON ADVANCED NANOMATERIALS

A research team led by researcher **Paul Trudeau at the National Research Council (NRC)** in Boucherville, in collaboration with the industrial partner **e2ip**, developed a revolutionary new technology for smart overmoulded parts, also known as In-Mold Electronics (IME). This technology uses MINK molecular conductive ink to create smart, curved surfaces. IME parts are used in a variety of sectors, from medical equipment and household appliances to high-end car interiors and aircraft design.

The manufacturing process behind IME parts involves several key stages. First, the base electronics are screen printed with MINK conductive ink, providing superior conductivity. Next, thermoforming gives the part its desired shape while minimizing the number of components. Finally, additional lighting elements and interfaces are introduced to meet functional requirements.

This collaboration between the NRC and e2ip has been a fruitful one, helping e2ip become a world leader in the field. The project received much recognition, including the prestigious Crystal Award at Aircraft Interior Expo 2021, among others. e2ip also picked up the Research Innovation Award at CPES2021, along with the 2021 Innovation Award from the Association pour le développement de la recherche et de l'innovation du Québec (ADRIQ).

Backed by these promising advances, e2ip is preparing to transfer this technology from its research and development department to commercial production. The company intends to commercialize this innovative product for the transport sector by supplying cutting-edge human-machine interfaces (HMIs). A specialized manufacturing plant will be set up in Quebec to ensure the successful transfer of this technology.

 *PRIMA is a partner of choice for e2ip technologies. Its team helped facilitate the technological interconnection between e2ip and the NRC when developing the next generation of human-machine interfaces that will transform the way people interact with their physical environment through innovations in printed electronics, materials science and advanced manufacturing processes.* 

- **Anna-Marie Marasliyan**,
Vice President of Technology,
Product and Marketing at e2ip



SECTORS

Printed Electronics
Human-machine interfaces



APPLICATIONS

Electronics
Infrastructure
Health | Transportation



TRL

4-5



DURATION

28 months
(2020-2023)