

## **Powercast and Liquid X Announce PrintedDu Electronics Venture to Enable Durable, Washable e-Textiles that Seal in Wireless Charging Electronics**

*Liquid X's particle-free conductive inks can print wireless charging electronics directly onto smart wearables rather than adding it afterwards*

Pittsburgh, PA – May 5, 2020 - Powercast Corporation, the leader in radio-frequency (RF)-based long-range over-the-air wireless power technology, and Liquid X, an advanced manufacturer of functional metallic inks with prototype-to-production design and manufacturing capabilities, today announced a printed electronics venture to enable garment manufacturers to easily integrate wireless power functionality into durable, flexible, high performance and washable e-textiles.

Utilizing Liquid X's proprietary ink technology, manufacturers can print circuitry directly onto a garment, add Powercast's wireless power technology and a battery, and seal this all into the garment during the manufacturing process. The two companies' goal is to enable cost-effective manufacturing of durable e-textiles, with battery-powered features such as health and wellness, movement monitoring, or LED-based illumination embedded directly into garments, that consumers can conveniently recharge over the air, and wash, without having to remove a battery pack.

Today's smart garments often snap electronics onto the garment along with battery packs that users must detach before washing. With the combined technologies of Liquid X and Powercast, now manufacturers can integrate the electronics directly into the garment. First, circuitry is printed on the fabric using Liquid X's proprietary particle-free ink, including Powercast's RF wireless receiving antenna. Next, Powercast's Powerharvester® RF wireless power receiver chip, a battery, and other components are mounted onto the printed traces. Finally, an encapsulant provides a high strength waterproof bond to seal in all of the electronics.

To recharge the battery, consumers simply place a Powercast RF transmitter in the closet or drawer where they store their smart wearable. It transmits RF energy over the air to the RF receiver embedded in the wearable, which then converts it to direct current (DC) to charge the battery.

The two Pittsburgh, Pennsylvania-based companies showcased at CES in January 2020 a wirelessly rechargeable smart athletic shirt prototype that illuminates using printed electronics, embedded power harvesting technology, and LEDs powered over the air up to 10 feet away from the wireless transmitter.

**Editorial note:** Multimedia assets are available at: <https://www.powercastco.com/visuals/>

### **About Powercast**

Powercast, established in 2003, is the leading provider of RF-based wireless power technologies that work in the far field (up to 80 feet) to provide power-over-distance, eliminate or reduce the need for batteries, and power or charge devices without wires and connectors. Founded with the vision of enabling untethered devices powered over the air, Powercast continues to create the most efficient, safe and highest power harvesting technology achievable while complying with the FCC and other global standards.

Powercast's IP portfolio includes 57 patents worldwide (32 in the US) and 29 patents pending.  
[www.powercastco.com](http://www.powercastco.com).

### **About Liquid X**

Liquid X, headquartered in Pittsburgh, Pennsylvania, is an advanced material manufacturer of functional metallic inks that takes an application from prototype to production. Liquid X partners with manufacturers within the electronics industry to develop and print functional components utilized in various devices, including sensors; heating elements; smart textiles and many others. Through our proprietary particle-free inks, printing capabilities and technical expertise, we take an application from concept to commercialization using additive manufacturing techniques. <http://www.liquid-x.com>

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