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Colloidal Nanocrystal (CNC) Electrochromic Glazing Technology

Electrochromic dynamic windows offer many benefits including daylighting, glare control, privacy and energy savings. Current commercially available products have struggled to reach large market adoption due to their (1) high installed cost, (2) transmitted and reflected color, and (3) optical uniformity. Heliotrope's product development strategy is to resolve these issues using a colloidal nanocrystal (CNC) platform technology. Through the CNC platform, Heliotrope is able to offer material systems that provide variable spectral control (visible, NIR, and MIR), customizable tint color (neutral, blue, etc.) and enhanced device performance (wide dynamic range). Unlike traditional PVD electrochromic products, CNC products are fabricated using low cost, high throughput solution process techniques with lower manufacturing cost. We will discuss the unique attributes of Heliotrope's technology that will overcome the current market barriers for mass adoption of dynamic glazing.