

TRUSSCORE MATERIAL SCIENCE LAB



TRUSSCORE DIGITAL PAINT CONCEPT BRIEFING

www.trusscore.com/digital-paint



Trusscore Material Science



ABOUT

Trusscore is a material science company that is leveraging technology and innovation to change the building materials and construction industry, and particularly the way the world builds interior walls and ceilings.



Focus on Research & Development

The company is making a significant investment in research and development in order to disrupt the building materials industry, an industry that has been slow to adopt new methods or materials and to harness the opportunities presented by technology.



Trusscore Material Science Lab

The Trusscore Material Science Lab is based at the University of Waterloo's Velocity Lab. Located in the world-renowned Communitech innovation hub in Waterloo Region, Ontario, it is one of the world's most important centres for technology development.

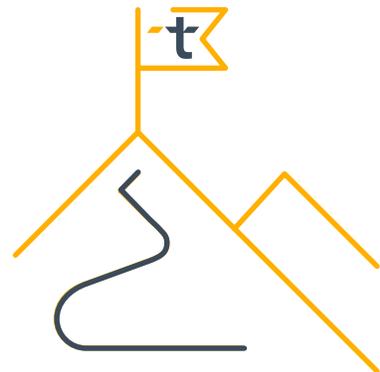
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Trusscore Digital Paint

MATERIAL SCIENCE LAB

MISSION

The mission of the Trusscore Material Science Lab is to combine sustainable building materials, material science, and smart technology to design interior wall solutions that will change the way the world builds.



Digital Paint: The Concept

There is a deep connection between color and emotion. That's why picking the perfect color for your home, learning environment, office space, etc., can be a daunting task. Imagine taking away the hard part of that decision.

What if you could instantly change the color of your walls or ceilings — no extra time, labor, materials, or inconvenience. You can effortlessly create the optimal environment for creativity, learning, well-being, etc.

Trusscore Digital Paint will make this possible. It creates an immersive user experience defined by individual preference and emotion, curating the optimal human experience.



CREATES OPTIMAL HUMAN EXPERIENCES

We spend 90% of our time indoors. Trusscore Digital Paint will improve that time by helping with occupant comfort and well-being from more responsive environments.



SMART BUILDING TECHNOLOGY

Trusscore Digital Paint is one of the first smart building materials, bringing the convenience of connected technology to your walls. Colors can be automatically controlled by voice command to your smart home hub or mobile device.

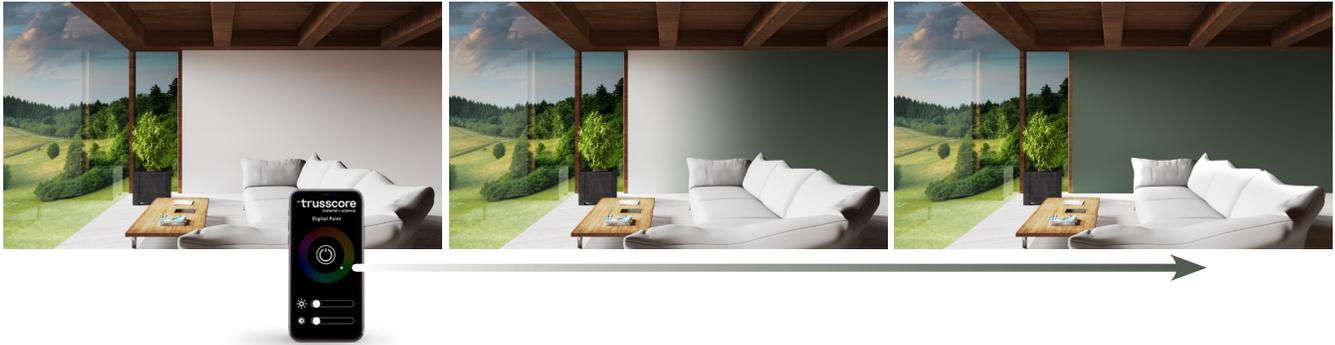


INDIVIDUALIZED IMMERSIVE ENVIRONMENTS

Trusscore Digital Paint will provide building and home owners with an enhanced immersive occupant experience, convenience, and cost savings. Its digital design control is responsive, effortless, and customizable. You can change your space without disrupting your space.

So What is Digital Paint?

Trusscore Digital Paint is a form of nanotechnology called nanophotonics. Nanophotonics harnesses electrochromic technology, optical engineering, and optics at the nano scale to create a digitally painted surface that is controllable across a wide spectrum of colors using low-voltage electricity.



Trusscore Digital Paint is technology that:

EFFORTLESSLY CHANGES YOUR WALL COLOR

Trusscore Digital Paint is responsive digital technology that allows you to effortlessly change the color of your walls and ceilings. Whether it's your whole room or a feature wall.



INTEGRATES WITH SMART TECHNOLOGY

Trusscore Digital Paint is a connected platform that seamlessly integrates with other smart technology (smart buildings). Examples include Apps, Alexa/Siri/Google, and Connected Devices (TV, others).



IS A MORE SUSTAINABLE WAY TO BUILD

Trusscore Digital Paint will allow for a more sustainable way to build and maintain buildings. It replaces the need to repeatedly paint with conventional painting materials supplies.



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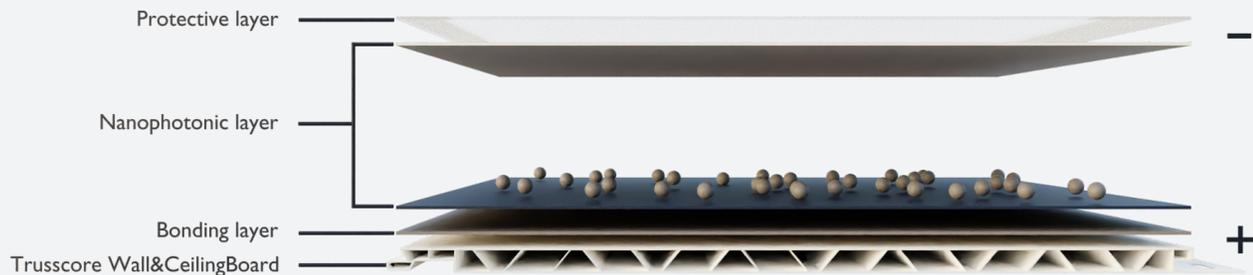
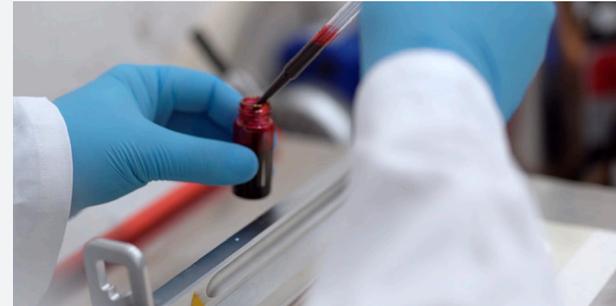




How is Digital Paint Applied?

Digital Paint is a layered technology where the nanophotonic color-changing layer is sandwiched between a protective and bonding layer.

The layered assembly is then laminated to Trusscore Wall&CeilingBoard. As a prefabricated modular wall system, Digital Paint will improve the ease of construction and allow for rapid deployment and design.



How Does Digital Paint Work?

Trusscore Digital Paint is a form of nanotechnology called nanophotonics, which uses electrochromic technology.

Changing the voltage across the wall's surface causes ions and electrons to shuttle from one electrochromic layer to another, changing the wall color. Reversing the voltage polarity causes ions and electrons to return to their original layers, allowing the walls to change color once again.

How much power does it consume?

For a full house, the technology uses the voltage of one AA battery



The Proof is in the Windows

Electrochromic technology already exists and is the latest technology used in windows, typically called smart or dynamic glass.

It's used for solar (heat and light) and privacy control in buildings, planes, and the rearview mirror in a car.

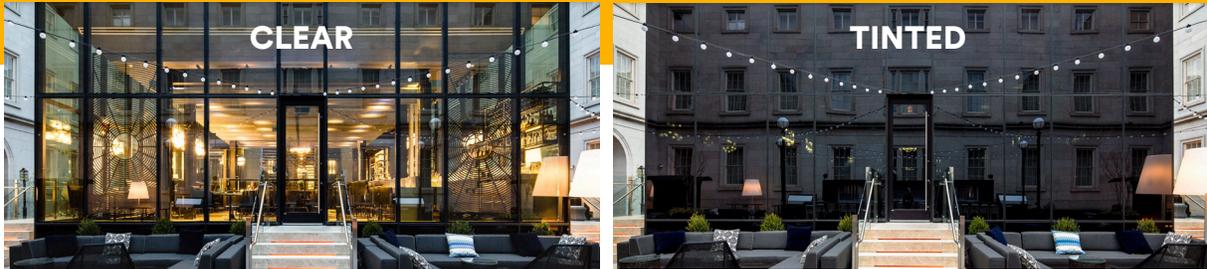


Photo Credit: SageGlass - Dirty Habit Restaurant, Washington D.C.

But... there is room for innovation with current color-changing technologies

The current capabilities allow changing between two states – on and off, and the spectrum between them. If we apply this to Digital Paint, there would only be two colors to choose from. Like the BMW Concept Car, it would be either black or white.



BMW Concept Car

And This is Where Trusscore Digital Paint is Different

The Trusscore Material Science Lab will extend Digital Paint beyond two colors to infinite color options.

Trusscore is currently able to change the color state of a thin film of material on a small scale. The intention is to eventually expand beyond limited colors to infinite color.



Electrochromic inks

Digital Paint Journey

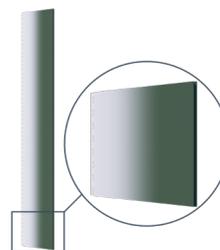
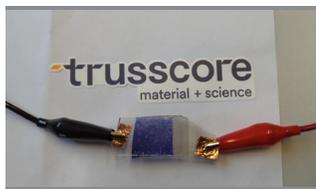


Material Science Lab:
Two-color changing

Material Science Lab:
Range of color changing

Material Science Lab:
Color range married with a
panel at full scale

Large scale production
at affordable pricing



“ Trusscore is hoping to disrupt the notion of painted walls with a breakthrough, industry-changing building technology. Trusscore Digital Paint has the potential to shake the foundation of what’s possible when you think of wall decor, unleashing the creative soul that lives in everyone. ”

Dave Caputo
CEO, Trusscore



How to Learn More

1

Interview with Dave Caputo, Trusscore CEO

Contact: Melanie Landry, 226 338 7695 or melaniel@trusscore.com

2

Book an appointment to drop by the Trusscore Material Science Lab for a demonstration of the technology

Contact: Melanie Landry, 226 338 7695 or melaniel@trusscore.com

Dave Caputo
CEO, Trusscore



Dave Caputo is a serial entrepreneur with a lifelong dislike for painted drywall and is committed to disrupting the building materials industry by bringing to market better performing, more sustainable solutions — the solutions produced everyday by Trusscore.

Dave is the former CEO and co-founder of technology company Sandvine and navigated a CDN \$562-million exit in 2017. He is prior board chair of Communitech, a public-private partnership that helps technology companies start up and grow. He additionally sits on the board of technology companies DOZR and Aterlo Networks.

Dave has a B.A. in computer science from York University and an MBA from the University of Toronto.

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material + science