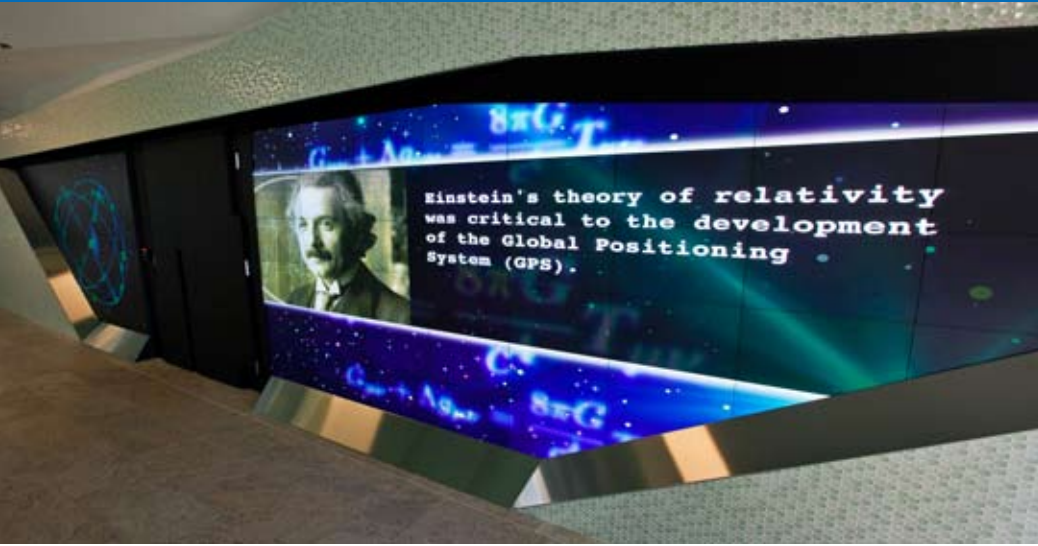


# Application Story

## Stephen Hawking Centre at the Perimeter Institute



The Perimeter Institutes' eye-catching media wall

### The Perimeter Institute's mandate

Canada's Perimeter Institute, located in Waterloo, Ontario, is the world's largest independent center devoted to research, training and educational outreach in theoretical physics. And while Perimeter is both an international focal point and online hub for cutting-edge physics research, the Institute's leadership places bright people at the center of all the activity.

Perimeter attracts many of the world's top theoretical physicists, as well as new, emerging talent from around the world, to collaborate on some of the most ambitious research into the deepest questions in physics. Perimeter also engages high school students, teachers and members of the general public from across Canada to inspire a love and basic understanding of science.

To help realize its ambitious goals, Perimeter Institute's research, training and outreach activities operate out of a custom-built facility. This center, including the recent Stephen Hawking Centre at Perimeter Institute expansion, demonstrates how architects can create a physical environment that helps promote collaboration, learning and discovery.

#### *Brilliance comes in all sizes, shapes and abilities*

The smart and dynamic design of the Stephen Hawking Centre "stimulates the research, training and outreach activities that go on inside" explains John Matlock, director, external relations and public affairs.

By wrapping 55,000 square feet of additional research space around the existing facility, architects doubled Perimeter's capacity — which could host up to 250 researchers in time — while only expanding the building's footprint by 20 percent. And thanks to a clever, green design and careful choice of materials, the expanded facility is on track to attaining Leadership in Energy and Environmental Design (LEED) Silver certification.

The building's audacious architectural vision has many odd angles to ensure there is "no box to think outside of." Chalkboards line the walls throughout and collaboration areas appear at most every intersection to encourage spontaneous, multidisciplinary interactions. Natural light floods the space, every office has a window, and wood-burning fireplaces surrounded by soft furnishings and blackboards help foster deep

### Customer:

Perimeter Institute for Theoretical Physics (PI)

### Partners:

RP Visuals

Westbury National Show Systems Ltd.

### Location:

Waterloo, ON, Canada

### Industry/Market:

- Higher education
- Architecture

### Requirements:

- Spectacular images and color quality
- Ease of use
- Reliable performance
- Durability
- Flexibility and versatility
- Environmentally responsible

### Summary:

Perimeter Institute — with its world-class theoretical physics research, training and educational outreach programs — needed an impactful communications technology of the same high caliber for its entrance area messaging system. The Institute chose Christie MicroTiles.

### Products:

- Christie MicroTiles

### Results:

The media wall, which features 84 Christie MicroTiles run by 11 electronic control units, greets all audiences in the main entrance of the Stephen Hawking Centre at Perimeter Institute. The information display serves to welcome, inform and build a sense of community for the Institute's many scientists, visiting researchers, young scholars, educators, staff, supporters and general public visitors.

scientific conversation and calculations. The facility also offers bistro dining, a library, fitness area and play space for researchers' children. Despite the building's many angular pathways and half-level work spaces involving stairways, the entire facility is completely wheelchair accessible by elevator and special lifts because brilliance comes in all sizes, shapes and abilities.

In this forward-looking facility, housing some of the world's most curious people, "we knew we needed an equally impressive messaging system inside the main, high-traffic entrance area," explains Matlock. "And not only to convey Perimeter's mission to newcomers, but to provide daily, useful information on the many research, training and outreach activities that everyone can act on." With many thousands of public visitors onsite during major festivals periods, Perimeter also needed a media messaging system that would be eye-catching, versatile, reliable, simple to operate and easy to maintain for many years.

John Coniglio of Westbury National Show Systems Limited highlights the value of companies such as Westbury in helping to synthesize the desires and vision of many different parties — in this case, the client, the architect and the manufacturer — and helping to bring that vision to fruition. Coniglio points out that "an integrator should hear everyone's needs and address them, while anticipating and avoiding potential issues. During this installation, we helped all parties articulate their desired outcomes, and we worked with the many different disciplines needed to complete a complex project — content, project management, construction and integration."

**Creating a messaging system with Christie**

With the expanded research center well under construction, Matlock and his colleagues were still focusing their communication needs and decided on the Christie® MicroTiles®. "It was very interesting to see how the MicroTiles digital canvas could so easily integrate into the existing building design, even as we were under construction," recalls Matlock. "In the past we had a few plasma displays to impart basic information — times, dates, names. But in thinking through this new facility, the Christie MicroTiles' technology with high-resolution capabilities, vivid color and 'wow factor' really took us to that next level. Plus our educational team is now in position to share highly-detailed scientific images and physics animations that bring abstract ideas to life in engaging and accessible ways" continues Matlock.

Housed in the lobby of the Stephen Hawking Centre, the media wall uses 84 Christie MicroTiles in an asymmetrical hexagon design with functional passageway in the middle. "The media wall's specific design is a fusion of mission, messaging and architecture. The unique shape of the wall is very much in line with the architect's desire for the entire space, and the MicroTiles

provided the flexibility and options to complete that vision," reports Matlock.

Randy Pagnan, President, RP Visuals, the company that created the support structure for the tiles, explains further, "When you go more than five tiles high, you need a back frame, which is what RPV constructed. The adjustability and flexibility of the frame allows you to achieve the shape of the video wall and the tight seams that were specified. The MicroTiles allow for the creativity of architects to realize their vision and do things that only a few years ago, they couldn't. The Perimeter Institute video wall from the front of the MicroTiles screen to the rear of the backer frame is 16 1/8 inches, and architects can get very creative in that space...."

The messaging content displayed on the MicroTiles shares Perimeter's purpose and history, as well as information on the research, training and outreach activities that go on inside the institute and across the country. The media wall is also the main showcase to identify the many public and private partners who value and support the good work at Perimeter.

Christie MicroTiles are an easy digital canvas to operate, and Matlock's small, internal graphics and web team is able to use a portfolio of display zones, templates and backgrounds to share a wide range of images and messages. As the team's learning curve rises, so do creative opportunities to create, import, customize, stream and have fun with an infinite number of programmed and dynamically-fed messages.

From an environmental perspective, Christie is Restriction of Hazardous Substances Directive (RoHS) compliant, making the Christie MicroTiles an ideal choice for the facility, which hopes to be granted LEED silver-certification. Despite their bright, clear, powerful images, Christie MicroTiles have no consumables. The solid-state components are both reliable and durable, require minimal maintenance, minimize carbon footprint and lower the total cost of ownership.

Concludes Matlock, "Given the number of different communities that will pass by the media wall every day in the years ahead — including international researchers, trainees, outreach audiences, supporters and other stakeholders — we are in an ideal position with Christie MicroTiles to keep the messaging as fresh and awe inspiring as the Stephen Hawking Centre itself."

**Contact Christie**

Contact us today to find out how your organization can benefit from Christie solutions.

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