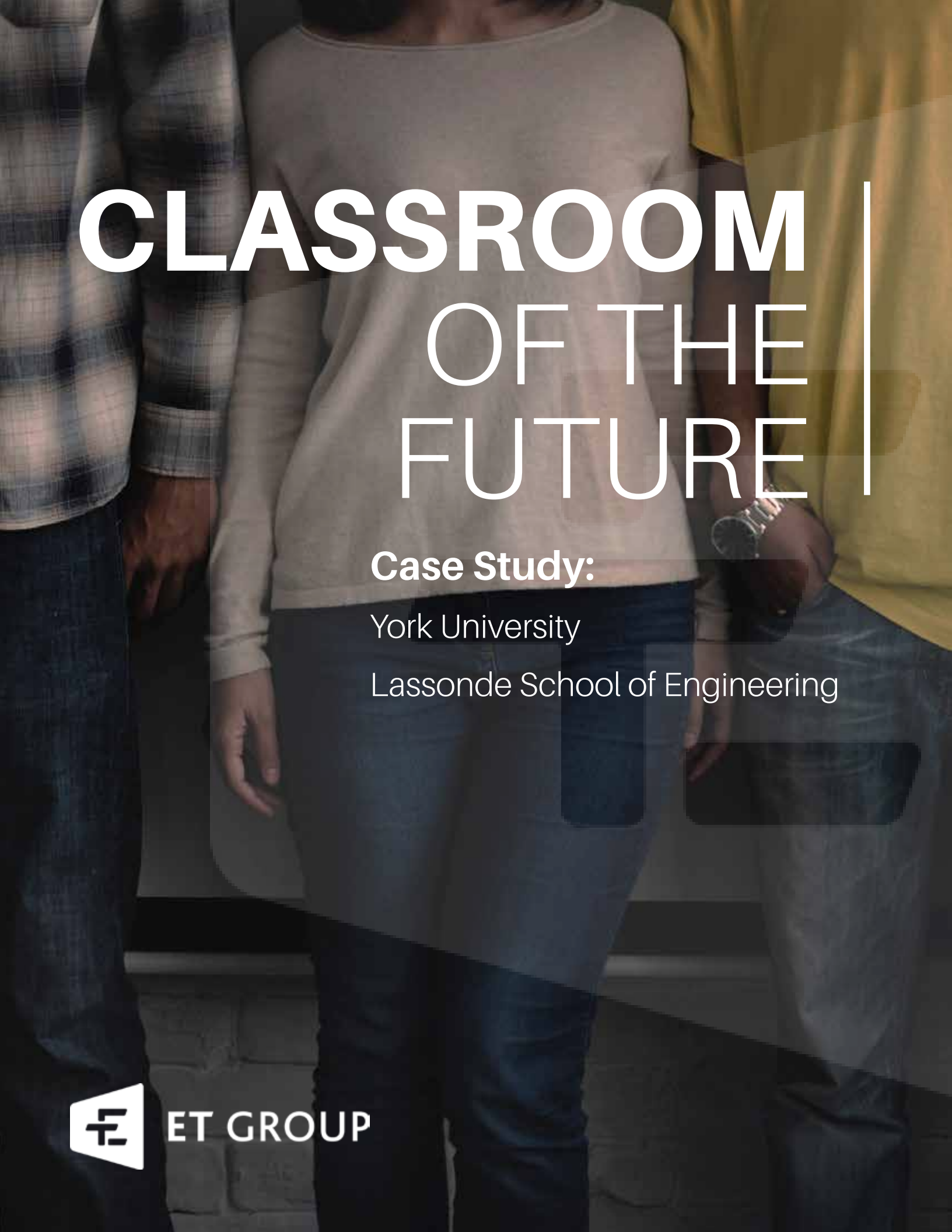


CLASSROOM OF THE FUTURE

Case Study:

York University

Lassonde School of Engineering

ET GROUP

Building the Classroom of the Future

The future of the classroom is a dynamic and trendy topic. Many institutions are engaging in conversations on technology shaping the way we learn. But what happens when a professor, a department, and a forward thinking University put their talk into action? The Lassonde School of Engineering at York University built a classroom that truly embraces technology. The classroom of the 'future' is a reality thanks to a leap of faith, creating learning opportunities and engagement that has never existed. In wanting to change the way the engineering students learned, they engaged ET Group to build a classroom that met their needs. They were able to build a successful prototype for the Engineering School and the University embraced a new style of learning.

Location
Toronto, Canada

Industry
Higher Education

Application
Learning
Virtual Classroom

Lassonde School of Engineering

The Lassonde School of Engineering is a professional engineering school at York University that was founded in 2011, a place where students are free to explore their passions and gain different perspectives from the world around them. This progressive school's goal is to create 'renaissance engineers' and educate entrepreneurial engineers who embrace social consciousness and global citizenship. Technology and collaboration are essential in achieving their goals of producing world leading engineers.

Spiros Pagiatakis

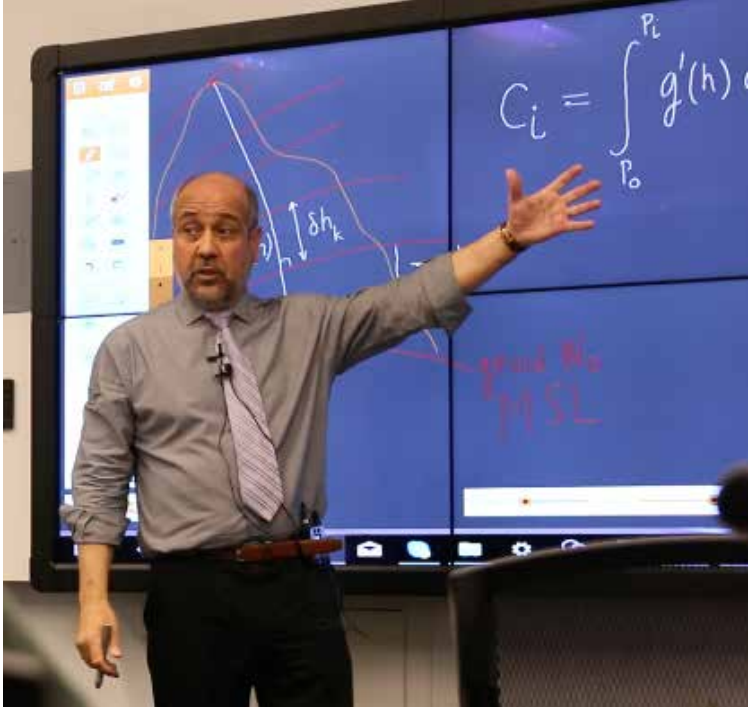
Associate Dean, Research & Graduate Studies

Lassonde School of Engineering

Shifting a Culture: The Virtual Classroom

At the Lassonde School of Engineering, deep and true learning is a priority. The vision of a Professor and faculty, managed to shift the culture of traditional teaching by embracing technology to assist in creating interactive learning. When the decision was made, installation needed to occur quickly. Faculty quickly embraced this prototype opportunity. The challenge of installing and having all of the technology functional had to correspond with the summer break to prepare for the upcoming school year. There was a concern from Professor Pagiatakis that the specifications and requirements needed, may actually be out of scope with the technology that was available as he explains. "We thought that we were too demanding in terms of the technology needed to develop our new teaching style within a virtual classroom environment here at the Lassonde School of Engineering." Although concerned that his goals may have been too lofty, ET Group not only met the technical challenge and provided a customized solution, but also installed it

The technology that ET Group chose were displays from **Planar, a Leyard Company.** The installation of Planar's Clarity(R) Matrix(R) MultiTouch LCD video wall created a completely interactive classroom.



"I believe this is true innovation to teaching and learning," says Professor Pagiatakis. The virtual classroom is a new way of teaching. The class is broadcast live, with the use of the Planar display technology. The live broadcast allows for students to attend, participate, and interact with the class from anywhere, allowing for flexibility. "The entire class and discussion is recorded and is available to the students right after the end of the learning session," says Professor Pagiatakis.

The Planar display solution addresses the ever changing demands on students and allows their learning to be more flexible to their schedules. "The on demand culture is a reality and a necessity, no longer a luxury," says Dirk Propfe, CEO of ET Group. There was an extremely intuitive and collaborative process between faculty and ETG to design the perfect solution. "Listening and understanding the needs, and goal of the client and then finding the technical solution for them, is what makes our job at ETG so rewarding. We are able to collaborate and find solutions that deliver."

"One of the characteristics from this classroom, is that we can **broadcast live**; the lecture, or the learning session."

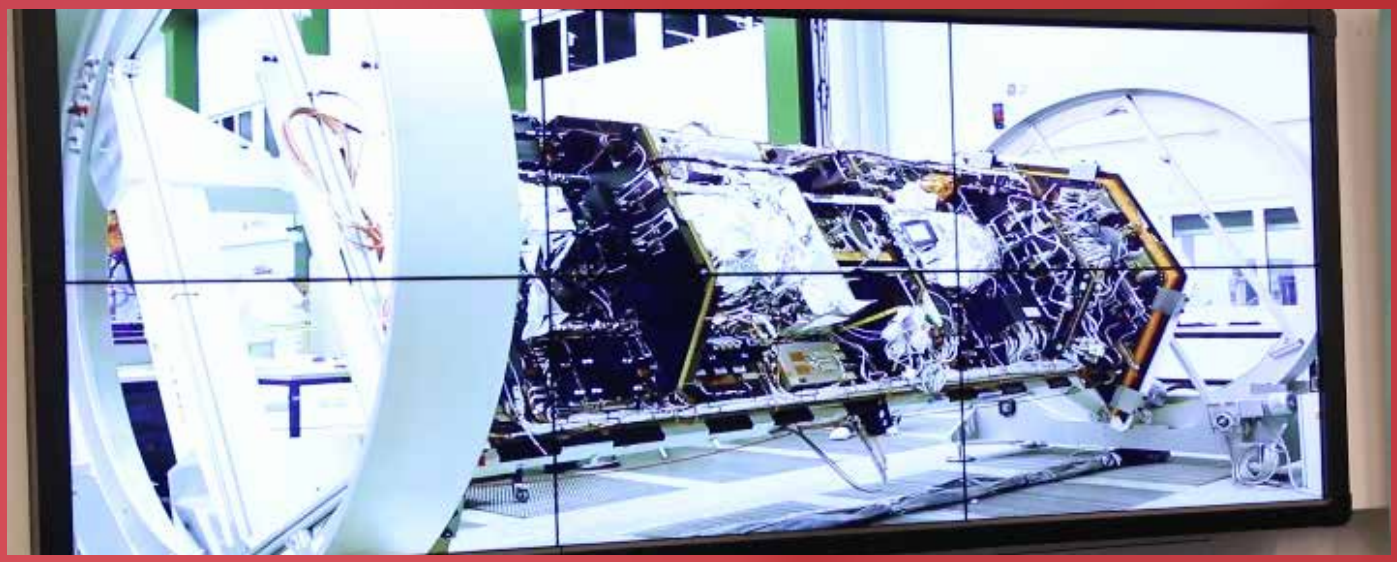
- **Spiros Pagiatakis,** Associate Dean, Research & Graduate Studies

The Solution

The key solution delivered by ET Group was the ability to turn the classroom into a virtual one with the **Clarity Matrix MultiTouch video wall**. The video wall features 6 points of touch and allows multiple users to simultaneously interact with the video wall without affecting other users. The Clarity Matrix MultiTouch video wall is protected against damage by a bonded glass surface called Planar® ERO™ (Extended Ruggedness and Optics™) technology. Planar ERO provides an interactive touch source while minimizing effects of glare, enhancing clarity and ease of viewing.

The video wall features a tiled bezel width of 3.7mm and 500 nits brightness. Clarity Matrix features an off-board design so power and electronics components can placed in a rack in a technology closet, rather behind the video wall and allowing easier to servicing. For Professor Pagiatakis, it is the features of the Clarity® Matrix® MultiTouch Video Wall that make it unique.

"We switch to many different displays with the touch of the screen; we can scroll, enlarge and reduce the size of the presentation or the display, we can move or switch from one presentation to another, we can switch from blackboard or whiteboard to a powerpoint presentation, we can have a video presentation, we can link to the internet, we can edit documents in real time in front of the students using word files or PDF files. Any kind of mode of display can be used at the touch of a button and that is really amazing technology for us."



The Clarity® Matrix® MultiTouch LCD video wall provides outstanding tiled visual performance, supports extended operation and requires minimal installation space. Clarity Matrix MultiTouch is designed for 24x7 operation and features the Planar® EasyAxis™ Mounting System and off-board electronics design, making it the slimmest and most reliable interactive LCD video wall available.

Clarity Matrix MultiTouch not only allows simultaneous touches but also provides a better touch experience, enabling pinpoint accuracy, prevents false touch points and is capable of video wall sizes up to 500" diagonal. This ultra slim video wall is the focal point of the space, and allows for the classroom to become a virtual one. The size of the virtual wall, creates the engaging and real size display, and students and instructors alike can feel like the presenter is part of the class, even when they are physically not in the space. The video wall connects students and instructors to participate from anywhere in the world.

Features and Benefits

- 46" and 55" with 1920 x 1080 resolution
- Tiled bezel widths ranging from 1.7mm-5.5mm
- Choice of 6 or 32 simultaneous touch points
- Available in 2x2 and 3x3 standard configurations
- Custom configurations available
- Allows multiple people to interact with video wall without affecting other users

"The video wall approach is very versatile and very useful for delivering the different modes of knowledge to the students. It helps also with the interaction. For instance we can have a guest speaker or lecturer from another city or country around the world that can join us and students and instructors in the class feel like the person is right in front of us. This helps with the idea of virtual classroom reality that although far away or outside the classroom you feel like you are in it, because of that technology."

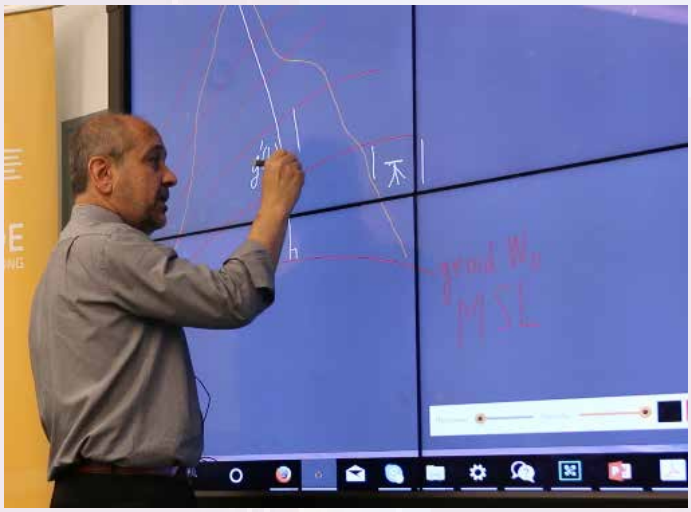
Fast and Accurate Touch Solution:
Not only does the Clarity Matrix MultiTouch video wall provide simultaneous touches, it provides a better touch experience with pinpoint accuracy and prevents false touch points.

Ultra-Slim Profile:
Clarity Matrix MultiTouch features an ultra-slim profile with Planar® EasyAxis™ Mounting System. The EasyAxis Mounting System also enables fine adjustments to achieve perfect panel-to-panel alignment, creating a continuous touch surface.

Modular Protective Touch Service:
Other implementations of touch systems for LCD video walls have required a large piece of glass in front of the LCD to protect and provide a touchable surface. This glass can be cumbersome for installation, transport, and servicing of large video walls. The modular design of the Clarity Matrix with ERO provides a near seamless touch surface while ensuring ease of installation and serviceability, less parallax error, and superior optical

Features and Benefits

- Provides vandal-resistant protective glass for increased ruggedness and durability
- Improves contrast by eliminating mismatched reflective layers
- Improves readability without increasing backlight wattage
- Improving resistance to shake and shock
- Keeps out dust and moisture that can make a display unreadable



The Results

Creating the virtual classroom has had a tremendous impact on the teaching and learning. Professor Pagiatakis explains, "It has changed the way we think about teaching. It has changed the approach we take to deliver concepts to the students. It has changed the way students participate in their learning and the experience that they get in learning in a way that is interactive." Creating flexible learning approaches to meet all of the students needs, allowing them to access information on their time, is not going to be a luxury in the near future, but a requirement. "We have to adapt to the most effective learning processes, especially to the way the younger generation is approaching things and learning things. Seeing technology and understanding that the impacts will be far reaching and profound on these students and their careers."

The Lassonde School of Engineering and York University are currently pursuing more virtual classrooms and are shaping the classroom of the future.