CLIENT INNOVATION STUDY
IBM WATSON RESEARCH CENTER
YORKTOWN HEIGHTS, NY
CLIENT OBJECTIVE:
The previous display technology utilized in the auditorium was a Digital Projection TITAN Pro Series projector with a motorized screen.

The client’s vision involved upgrading to something “jaw-dropping” that would make presentations more impactful to the audience and have the ability to show multiple content sources simultaneously. The solution must also be able to preserve the architectural integrity of the auditorium.

TECHNOLOGY SOLUTION:
238 Radiance LED 1.2mm panels measuring 34’ wide x 16’ high at 8K resolution
Custom curved mounting frame
Supporting AV presentation and production systems

BEFORE RENOVATION
A TECHNOLOGY JUGGERNAUT

Big name-brands carry with them big reputations. Developed over many years, they form the core of their brand identity and help mold the company’s values. So, when the technology juggernaut IBM wanted to update their main auditorium display in the Thomas J. Watson Research Center, they needed a solution with world-class quality and performance to match.

One of the largest industrial research organizations in the world, IBM has pioneered scientific breakthroughs across many promising and disruptive technologies. They are credited with bringing the first personal computer to life, as well as creating the first hard disk, the development of magnetic stripes for credit cards, and the practice of barcode scanning, just to name a few. Today, the company is leading research in cutting-edge fields such as artificial intelligence, blockchain technology, and quantum computing. This includes IBM Watson, the company’s suite of enterprise-ready AI services, applications, and tooling.
WORLD-CLASS INDUSTRIAL DESIGN WITH DYNAMIC LED VISUALS

One location spearheading these innovations is the Thomas J. Watson Research Center; the headquarters of IBM's Research Division. Researchers at the center often need to present findings in executive and client engagement meetings which take place in their impressive 240 seat auditorium, designed by neo-futuristic industrial designer, Eero Saarinen. Tackling some of the world's most complex problems and promising opportunities, IBM requires presentation displays that are effective and inspiring to truly communicate the importance of their projects. To do this, they selected a Digital Projection Radiance LED Video Wall for their primary display.
A MAJOR UPGRADE...

The previous display technology utilized in the auditorium was a Digital Projection TITAN Pro Series projector with a motorized screen. The client’s vision involved upgrading to direct-view LED technology to create a brighter, more color-rich, and dynamic presentation space, uninhibited by ambient light, and capable of delivering ultra-high resolution up to 8K pixels. The modular Radiance LED solution also allowed IBM to benefit from a totally seamless image across the entire front wall.

A PERFECT FIT...

In order to achieve the desired resolution, and to ensure an excellent viewing experience from every seat in the venue, the 1.2mm pixel-pitch Radiance LED Performance Series was selected. Designed to be maintained completely from the front, and requiring only inches of depth, the Radiance LED system required very little modification to the auditorium wall infrastructure. The actual LED display panels fit perfectly where original wood paneling was installed.
The result was a dynamic and immersive LED display, measuring 34 feet wide by 16 feet tall, installed to match an architecturally significant curved wall, which was important to the aesthetic of the auditorium. In partnership with HB Communications, Digital Projection provided design engineering and installation of the curved wall, ensuring a successful deployment of the enormous, near-8K resolution display.

Lorraine Herger, Former Director of Research Integrated Solutions at IBM had this to say about the project:

“We believe that profound breakthroughs come when businesses, governments, academic institutions, and others work together to tap into diverse points of view and expertise. Our vision was to provide a stunning, ‘jaw dropping’ image that would make presentations more memorable to the audience. The full screen image with its immense size (34’x16’) is amazingly lifelike and impresses the audience.”
Collaborating with HB Communications, a new state-of-the-art presentation and production system was developed to compliment the fine-pitch LED video wall. Tim Hutton, Senior Account Executive at HB Communications describes the integration process as very in-depth, “We included an Analog Way multi-layer premium seamless switcher, Ross SDI routing system, Crestron NVX network AV encoding/decoding system, Shure MXA910 Beamforming Ceiling Microphones, Meyer Sound surround sound speaker system, and Panasonic HD PTZ camera systems, just to name a few.” As for the room design itself, Hutton goes on to add:

“One of the main challenges for this application was meeting the client's technology requirements while preserving the architectural integrity of the Auditorium. The front wall of the Auditorium consisted of wood paneling which IBM wanted to retain so an ingenious solution was needed. Multiple high-resolution pictures of the front wall were taken and combined into a single background image which perfectly emulated the wood paneling when displayed on the Radiance LED Video Wall. Digital Projection was engaged from project inception to completion. DP engineering and sales worked seamlessly with both HB Communications and IBM on the design, structural requirements, installation, and system commissioning to make this impressive installation possible.”
“DIGITAL PROJECTION WAS ENGAGED FROM PROJECT INCEPTION TO COMPLETION. DP ENGINEERING AND SALES WORKED SEAMLESSLY WITH BOTH HB COMMUNICATIONS AND IBM ON THE DESIGN, STRUCTURAL REQUIREMENTS, INSTALLATION, AND SYSTEM COMMISSIONING TO MAKE THIS IMPRESSIVE INSTALLATION POSSIBLE.”

- Tim Hutton, HB Communications

CONCIERGE ENGINEERING SUPPORT AND INSTALLATION
“THE RADIANCE LED WALL BROUGHT OUR VISION TO LIFE...”

When the installation was finished, IBM’s guests and staff were “stunned”, as Herger describes. “During our opening event, we displayed a high definition image of our original wall on the LED wall and our community did not know the original wall had been removed and replaced with an image. The colors, brightness, clarity, and depth of vision that can be achieved are amazing!” Herger goes on to say, “The Radiance LED wall brought our vision to life with image quality exceeding our highest expectations. We were extremely impressed and grateful with the level of dedication and meticulousness that the DPI installation team showed in order to provide us with this wonderful LED experience.”
EQUIPMENT LIST:

- (238) Radiance LED 1.2mm panels
  - Custom curved mounting frame
  - Digital projection

- Multi-layer premium seamless switcher
  - Analog way

- SDI routing system
  - Ross

- NVX network AV encoding/decoding system
  - Crestron

- Digital mixing console
  - Yamaha

- Tesira DSP network server
  - Biamp

- MXA910 beamforming ceiling microphones
  - Shure

- Surround sound speaker system
  - Meyer Sound

- HD PTZ camera systems
  - Panasonic

- Remote control system
  - Crestron
We would like to thank IBM and the Thomas J. Watson Research Center (www.ibm.com/watson) for the use of images and content in this case study.