CASE STUDY

HUDSON YARDS

Photo Credit: Hudson Yards

The 28 acre site is the largest private real estate development in the history of the United States and includes more than 18 million square feet of commercial and residential space.

SOLUTION OVERVIEW

Digital infrastructure deployed in connected smart points enhance visitor experience, connect devices, and deliver data-driven insights.

TECHNOLOGY PARTNERS

Cisco Systems - Communications Platform
Intel - Compute Platform
LG-MRI - BoldVu Smart Point
Intersection - Media Platform

COMPONENT SKUS

Cisco Systems
- IE5000-12S12P-10G
- Catalyst 9300-NM-8X
- AIR-AP1562I-B-K9

Intel
- Intel® Core™ i7-7700T Processor
- Intel® SSD DC S3110 Series SSD

LG-MRI
- BoldVu® 55" - BV1455PD
- BoldVu® LT 55" - BL1455PD

DIGITAL INFRASTRUCTURE CONNECTS HUDSON YARDS

Hudson Yards is the largest private real estate development in the history of the United States and the largest development in New York City since Rockefeller Center. The site includes more than 18 million square feet of commercial and residential space, state-of-the-art office towers, more than 100 shops including New York's first Neiman Marcus, and a collection of restaurants curated by Chef Thomas Keller. The urban development will include approximately 4,000 residences, The Shed, a new center for artistic invention, 14 acres of public open space, a 750-seat public school and an Equinox Hotel® with more than 200 rooms—all offering unparalleled amenities for residents, employees and guests. The development of Hudson Yards created more than 23,000 construction jobs.

Property developer, Related, envisioned making the entirety of Hudson Yards a connected environment with an enterprise technology platform designed to collect, analyze and deliver data-driven insights that enhance the visitor and resident experience. To bring this vision to life, Related assembled a group of technology leaders that could develop and deliver an integrated suite of technology solutions in the form of an interactive digital kiosk.

Hudson Yards Indoor Kiosk

THE PARTNERS

Cisco Systems equipped Hudson Yards with a communications platform that includes Cisco Systems Wi-Fi and wireless communications from any device at any on-site location. Supported by an advanced Cisco System infrastructure technology platform, operations managers are able to monitor and react to traffic, air quality, power demands, temperature and pedestrian flow to create the most efficiently navigated and environmentally attuned neighborhood in New York.

LG-MRI enables technology deployment at the edge with their BoldVu® Smart Point - a high-performance interactive kiosk that serves as a housing for digital infrastructure. The Smart Point serves as an environmentally sealed and thermally controlled electronics chassis to house modems, switches, routers, and access points that are part of Hudson Yards' robust communications platform.

Intel is the backbone of the compute infrastructure powering the intelligence derived from the BoldVu® Smart Point. All IP cameras, sensors, media, and interactivity are processed, stored, and accessed via Intel infrastructure housed within the kiosk.

Intersection is creating on-screen experiences and facilitating media buy across the Smart Point network. Their software platform, IxNConnect, helps retail tenants execute omni-channel retail engagements by leveraging real-time data and insights collected from the Smart Points, elevating venue value and the visitor experience.

A MODEL FOR THE 21ST CENTURY URBAN EXPERIENCE

Hudson Yards will be far more than a collection of tall towers and open spaces - it will be a model for the 21st century urban experience; an unprecedented integration of buildings, streets, parks, utilities and public spaces that will combine to form a connected, responsive, clean, reliable and efficient neighborhood.

Serving as the foundation for the IT resources powering the property, Cisco Systems has delivered a converged infrastructure of compute, storage, and networking resources that drive process efficiencies and lower costs across applications in security, mobility, and building management. This digital infrastructure is capable of supporting thousands of endpoints on a secured platform where the entirety of Hudson Yards can be managed in a collective manner.

KIOSKS DRIVE VALUE IN VISUAL COMMUNICATION

Indoor and outdoor digital kiosks, provided by display manufacturer, LG-MRI dot the Hudson Yards landscape. These kiosks, called BoldVu® Smart Points, are born of a display product purpose-engineered for operation in outdoor environments where sunlight, extreme weather, and vandalism pose real threats to system performance and long-term efficacy.

But more than simply surviving, BoldVu® displays are built to thrive in outdoor spaces, serving as the best technology platform for effectively monetizing visual communications. The revenue generating capabilities and sustained visual performance of BoldVu® are proven across more than 40,000 endpoints deployed in 50+ media markets globally. At Hudson Yards, the display technology built into the BoldVu® Smart Points creates the best opportunity to engage visitors, empower brands, and elevate the venue experience.

KIOSKS HELP CONNECT PEOPLE, PLACES, AND THINGS

BoldVu® Smart Points offer a unique platform for deploying ICT appliances at the network edge. With an environmentally sealed and thermally controlled electronics chassis designed to house and power storage, compute, and communications devices, the BoldVu® Smart Point serves as an “IT cabinet on the sidewalk”.

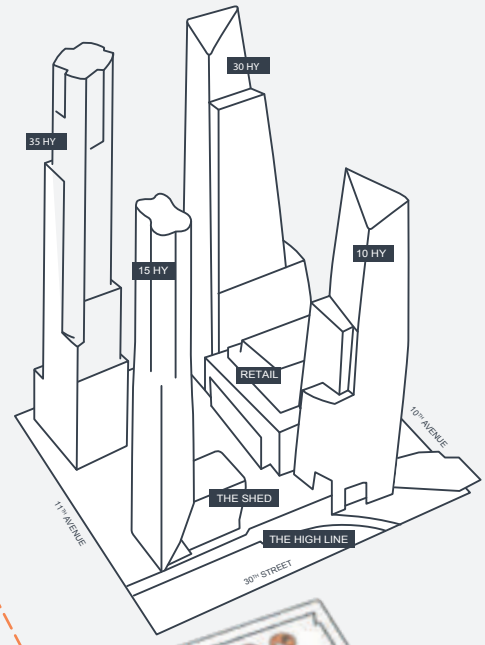
At Hudson Yards, outdoor Smart Points house a Cisco Systems IE5000 Series Switch within the display chassis, while the indoor kiosks house a Catalyst 9300 Series switch. In this deployment, these switches secure extends the Cisco enterprise network to IoT devices distributed around the property. A Cisco Aironet 1562E Outdoor Access Point, housed within an RF transparent enclosure affixed to the top of each outdoor kiosk, connects security cameras and IoT devices to the Cisco network for remote management and control.

KIOSKS CREATE INSIGHTS FROM RAW DATA

In much the same way we use data to understand user profiles and behavior on the web, BoldVu® Smart Points create data insights from the data they collect. Intel® Core™ i7-7700T Processors embedded within the Smart Point chassis power playback of all on-screen content and also process data from cameras embedded in the display. Data from both touchscreen interactions and camera feeds is analyzed to better understand campaign performance, audience demographics, pedestrian flow, and to identify potential security threats. The processing performance, high-reliability, and long lifetime of the Intel components is critical in achieving the vision of a connected and intelligent Hudson Yards.

Hudson Yards Outdoor Kiosk

HUDSON YARDS | A SMART MICRO-CITY



CONNECTED NEIGHBORHOOD

Communications will be supported by a fiber loop, designed to optimize data speed and service continuity for rooftop communications, as well as mobile, cellular and two-way radio communications. This will allow continuous access via wired and wireless broadband performance from any device at any on-site location.

- Digital antennae service for cellular and two-way radio
- Rooftop satellite
- Wireless transponders
- Fiber Loop

RESPONSIVE NEIGHBORHOOD

Hudson Yards will harness big data to innovate, optimize, enhance and personalize the employee, resident and visitor experience. Supported by an advanced technology platform, operations managers will be able to monitor and react to traffic patterns, air quality, power demands, temperature and pedestrian flow to create the most efficiently navigated and environmentally attuned neighborhood in New York.

- Building data-capture sensors and systems
- Electrical and thermal sub-metering
- Environmental sensors
- Advanced technology

CLEAN + RESPONSIBLE NEIGHBORHOOD

Progressive cities are moving toward organic waste separation systems to reduce landfill costs, methane emissions and greenhouse gas emissions. Hudson Yards makes organic waste collection convenient and space efficient by utilizing grinders and dehydrators to reduce food-service waste to 20% of its initial weight and volume.

Additionally, nearly 10 million gallons of storm water will be collected per year from building roofs and public plazas, then filtered and reused in mechanical and irrigation systems to conserve potable water for drinking and reducing stress on New York's sewer system.

- Organic-waste disposal
- Stormwater Tank

RELIABLE + EFFICIENT NEIGHBORHOOD

Whatever the disruption—super storm, brown out—Hudson Yards will have the onsite power-generation capacity to keep basic building services, residences and restaurant refrigerators running.

Hudson Yards' first of its kind microgrid and two cogeration plants will save 24,000 MT of CO2e greenhouse gases from being emitted annually (that's equal to the emissions of ~2,200 American homes or 5,100 cars) by generating electricity, hot and chilled water for the neighborhood with over twice the efficiency of conventional sources.

- 14.4 megawatts of cogen
- 15 megawatts of Tier 4 diesel generators
- Con Ed Utility Grid
- Microgrid Breaker
- Hot/Chilled water plant
- Hot/Chilled water line

This graphic has been modified from its original source to fit this document and is the property of Related:
https://www.hudsonyardsnewyork.com/content/uploads/2017/04/HY_EngineeredCity_April2017.pdf

BEYOND HUDSON YARDS

Urbanization is occurring at an unprecedented rate, increasing demand on city services. Smart cities are looking to data to identify needs and determine how to best use government resources to address them. Technology that connects people, places, and things is the key to meeting these challenges head-on.

Historically, city infrastructure has largely been built on vertically-oriented services and solutions that are procured by individual city agencies or departments, leading to a siloed architecture where systems and devices are redundant or incompatible. Smart cities are exploring and promoting the deployment of solutions that break down information silos and empower a connected and cohesive technology ecosystem.

As cities deploy technology solutions that have connectivity at the heart of what makes them valuable, the need to expand digital infrastructure has never been greater. BoldVu® Smart Points are born out of a technology product purpose-engineered to perform at the highest level in the Digital Out Of Home (DOOH) advertising space. Typically deployed on city streets alongside bus shelters, light poles, or as free-standing kiosks, the BoldVu® Smart Point's ability to house, power, and cool electronic devices, creates a commercial and economic bridge for cities to deploy ICT and IoT infrastructure to drive greater value at the network edge.

CISCO IE5000 SWITCH INTEGRATED WITHIN THE BOLDVU® SMART POINT ENVIRONMENTALLY SEALED ELECTRONICS CHASSIS.

RELATED CISCO LG-MRI Intersection

AS LG-MRI, CISCO, AND INTEL REPRESENT BEST-OF-BREED FOR OUTDOOR DISPLAY, NETWORKING, AND PROCESSING, THIS PARTNERSHIP SATISFIES THE SPECIFIC NEEDS OF CUSTOMERS SEEKING AN ENTERPRISE GRADE SOLUTION FOR VISUAL ENGAGEMENT IN THIS ERA OF THE INTERNET OF THINGS.

WANT MORE INFORMATION?

If you are interested in digital directories or interactive kiosks for your development, facility, municipality, or mass transportation system

VISIT WWW.LG-MRI.COM

Photo Credit: Hudson Yards. Rendering only.

LG-MRI technologies' features and benefits depend on system configuration and may require enabled hardware, software or service addition. Performance varies depending on system configuration. Cost reduction scenarios described are intended as examples of how a given product, in the specified circumstances and configurations may affect future costs and provide cost savings. Circumstances will vary.

LG-MRI Engagement. Connectivity. Insights.