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Innovation and inspiration

'New' Liberty Science Center will be on cutting edge of 21st-century museums

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Be prepared to say "wow!"

Get ready to have fun. Most of all, what the planners of the "new" Liberty Science Center want is for visitors to be inspired, to realize that science and technology are a part of their daily lives and to learn that it is within their power to take informed action on any scientific subject.

The center is designed to represent an entirely new kind of learning experience, according to its chief creator, Emlyn Koster, the president and CEO of Liberty Science Center.

"It's really all about connection, both locally and beyond," Koster said. "To have new insights into how the world works is to somehow act more responsibly on a global scale."

The state's largest science museum will reopen next July after a 22-month, \$109 million upgrade -- with a new entrance, a new wing, greatly enlarged classrooms and labs for teacher training and student learning, and, most dramatically, completely redesigned and rethought exhibits on floor upon floor.

"This is not going to be just about helping the public understand science," said Alan Leshner, president of the American Association for the Advancement of Science. "This center will be about engaging the public in science."

The center will remain geared to preschool children with caregivers, students, science teachers and families. Because of its multi-layered approach, designers also hope to attract adult, community and corporate groups.

Koster will announce at a press conference today that the mammoth construction project is running on time. Those performing site work and exhibit building are in high gear to be ready for its the reopening.

"Liberty Science Center will be one of the world's leading science centers when it reopens," said Jim Marchbank, president of the Canadian Association of Science Centres and CEO of Science North, an interactive science museum that is one of the top attractions in Canada. "It was already an outstanding center, but with Emlyn's leadership it will be larger, more up to date, more innovative and will be truly a leader in the field."

Others agree. "If you ask someone in the museum business for a list of the 'top five' of the most innovative science centers in the world, Liberty Science Center is definitely in there," said James Abruzzo, managing director of the Chicago-based executive search firm DHR International, who leads its nonprofit practice. "What they are planning to have will certainly make it one of the great centers -- it will be big, it will be filled with people, it will gleam and sparkle, and it will present science in a more humanistic way."

With a million visitors a year, the Jersey City center is already established as a major destination, as well as a national model for connecting schools and families from all socio-economic levels.

Popularity may be good, Koster said, but it's not enough. He wants the center to be useful and remain that way.

For example, in one exhibition, visitors will learn about contagious illnesses through a simulated ride on a subway car. In another, they will confront issues about sexually transmitted diseases in a setting designed to mimic a teenager's bedroom. Interactivity will be key -- many displays will allow cell phone users to communicate and download data for at-home perusal.

Through immersion, multimedia displays and hands-on gadgetry, the goal of the renovated center on the booming Jersey City waterfront will be to provoke visitors to take "informed action" in their daily lives. This will occur through demonstrations on how science and technology can help people assess the choices they make, and by showing how those actions affect others.

The redesign, reconstruction and reinvention of the center, which has included adding 100,000 square feet, have not happened overnight. Koster has worked at it over a decade, assembling a seasoned team of science center professionals. The group has brainstormed and planned rigorously.

The original exhibits were worn and seemed a bit "tired," according to Wayne LaBar, vice president of exhibitions and theaters, who joined the center in 1999 ready to help with the transformation. "Lots of people had seen them already, and there was a sense that there was a lot of science and technology out there that incorporated lots of change," he said. "We wanted to be relevant and show our connection to the world. So we went forward."

Designers have stayed with the same three major themes that connected the center's first exhibits -- health, the environment and invention. Rather than being assigned to separate floors as in the past, the themes are combined on different floors. Sequences of displays sharing themes will be called "exhibitions," LaBar said.

Some of the highlights will include:

- A 12,800-square-foot exhibition, the center's largest, called "Skyscraper!," believed to be the most comprehensive ever on the subject. It includes large models of some of the world's most notable structures and aspects of design from the basic physics of elevator operation to a test chamber assessing the strength of materials.
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- The 7,000-square-foot "Communication" exhibition, which can be explored with cell phones, multimedia, by touch, through spoken and written language and through symbols. Guests will learn how vital innovations in science and technology are to modern forms of expression.
- A new pre-school area called "I Explore," where children 2 to 6 can learn, along with their adult caregivers, about the natural world, their own bodies, and how and why things work.
- The 7,500-square foot "Infection Connection" exhibition to enlarge perspectives on contagious diseases through photo mosaics, a wet lab and a subway car theater, where guests will journey the world and the microscopic realm.
- The Exhibit Commons, with 10 separate exhibits, including the "Times Square of Science and Technology," a multi-media display showcasing the latest scientific discoveries and inventions.
- The 20,000-square-foot Center for Science Learning and Teaching, which will bring the audience into direct contact with working scientists with the goal of providing visitors with a deeper appreciation for science and its impacts. A large space in the center known as the Forum will host scientific competitions, demonstrations and discussions. Other areas contain laboratories, classrooms and video conference facilities for teacher training and greatly enhanced field trips.

Science centers, which have been around for decades, have been largely successful in attracting visitors and becoming part of the cultural landscape, according to many experts.

Unlike standard museums, however, which highlight the past, science centers are forced to reach into the future.

"Science museums are the only museums that are not looking backwards," said David Mosena, president and CEO of the Museum of Science and Industry in Chicago. "We have to stay current and we have to stay fresh."

All science centers are in a state of evolution, he said, and no one knows where they are headed. "Certainly, the 'hands-on' techniques of the past are becoming widespread and a little ho-hum," he said, noting that audiences are growing more sophisticated. "People are looking for engagement and want to be much more involved, more participatory, spontaneous and experimental. We're trying to figure out how to do it."

He praised Koster and company, saying that his center borrowed Liberty Science Center's idea of a live video conference of hospital surgery and it has become one of the center's most popular events. "I think he's one of the strongest leaders in the science museum-science center field," he said. "He's definitely one of my favorite people in this business."

Science centers have always been centered upon education and were founded as places where visitors could explore the way the world works. Along the way, their founders hoped, visitors would develop a lifelong interest in science and technology.

Most of the world's first science centers, famed for "hands-on" exhibits, were established in the 1960s. They excelled as places of interactive discovery about certain scientific phenomena. Some of the most famed included The Exploratorium in San Francisco and the Franklin Institute in Philadelphia.

There are now hundreds of such science centers throughout the world.

By staying relevant, centers like Liberty may be living up to a museum's highest calling.

"Museums reach out to the communities they serve and work to provide the highest educational, inspirational and valuable experiences for visitors," said Kim Igoe, interim president and chief executive officer of the American Association of Museums. "In doing so, museums act as good neighbors, sustaining and contributing to an engaged, informed and enthusiastic community."

She described Koster, Liberty's director, as a person possessed with a bold vision: "He is an advocate for the relevant museum, acting upon the idea that a museum should serve as the central forum for engagement and interaction with issues and ideas that confront the community and the world in which it lives."