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Today's FACILITY MANAGER

Disneyland: The World of Yesterday, Today, And Tomorrow

Technology makes it possible to take the property to new heights while preserving Walt Disney's dream.

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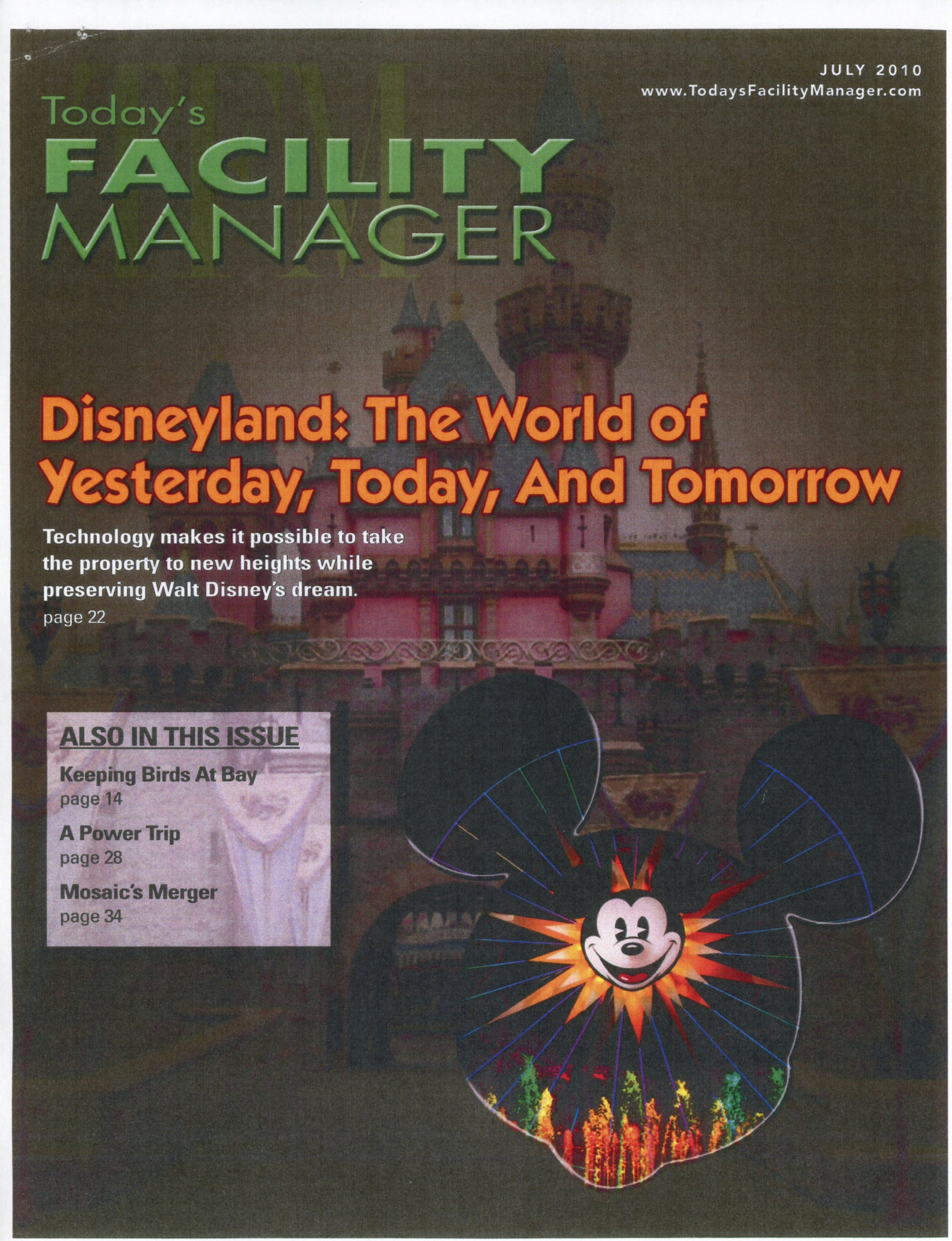

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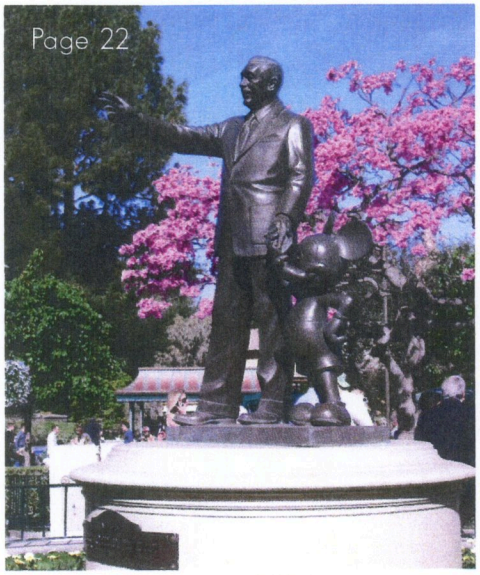

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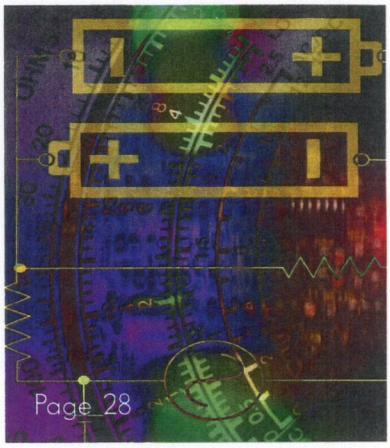

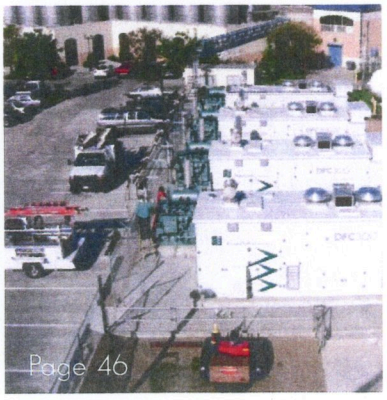

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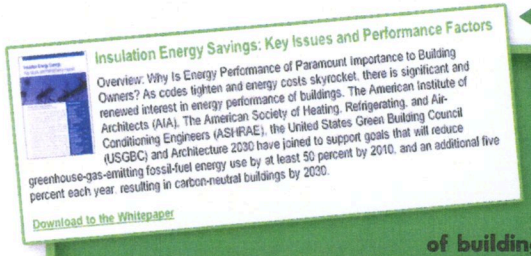


A white paper from Honeywell, "Insulation Energy Savings: Key Issues and Performance Factors," is available for download on the *TFM* Website. As codes tighten and energy costs skyrocket, there is significant and renewed interest in the energy performance of buildings. This Honeywell white paper provides insight on how insulation can help address this. Download the white paper now at: http://www.todaysfacilitymanager.com/fm-resources/tfm-whitepapers/insulation-energy/whitepaper.php.

The Mechanics Behind The Magic

PHOTOS: SYLVANIA ON BEHALF OF DISNEYLAND (PAGE 22, RIDE INSET ON 23); HEIDI SCHWARTZ (PAGE 23)

By Heidi Schwartz

All the way from Snow White's Castle on Main Street to Mickey's Fun Wheel in Paradise Pier, technology helps to make the magic possible at Disneyland.

From its televised preview back in 1955 to its recurring backdrop as the opening to *The Wonderful World of Disney* (which ran on the ABC network until 2008), Disneyland has been in the public eye for more than a half a century. During that time, this theme park—the only one designed and built under the direction of Walt Disney himself—has hosted the largest cumulative number of guests compared to any other place of its kind. It has also been the testing ground for some of the most innovative technology, due to the work of the talented engineers (or "Imagineers" as they're referred to in Disney lingo), facilities people, and business partners who have contributed to the aesthetically sensitive evolution of this iconic site.

So how do the members of this team collaborate on key decisions that keep Disneyland on the cutting edge? That story is shared through this roundtable interview with key personnel involved in the "The Happiest Place On Earth"—from conception to operation to maintenance.

Roundtable Participants

Tony Baxter, senior vice president of creative development, Walt Disney Imagineering

Mike Colotti, vice president of brand management and marketing communications, OSRAM SYLVANIA

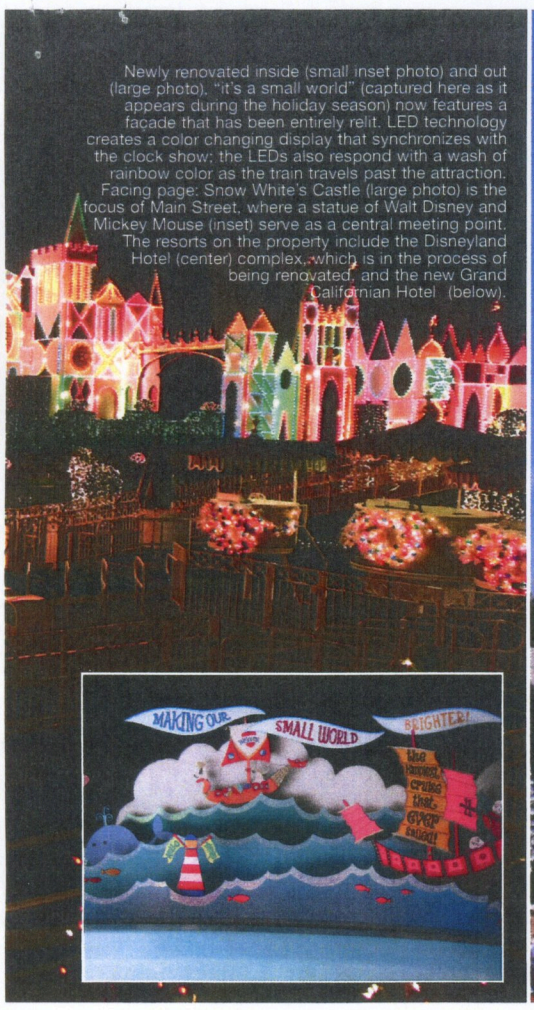
Frank Dela Vara, director of environmental affairs and conservation, Disneyland Resort

Rich Langhorst, vice president, facilities and operations services, Disneyland Resort

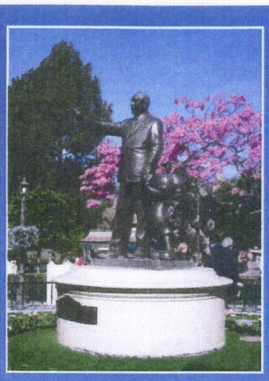
Doug McIntyre, director of show development and production, Disney Creative Entertainments

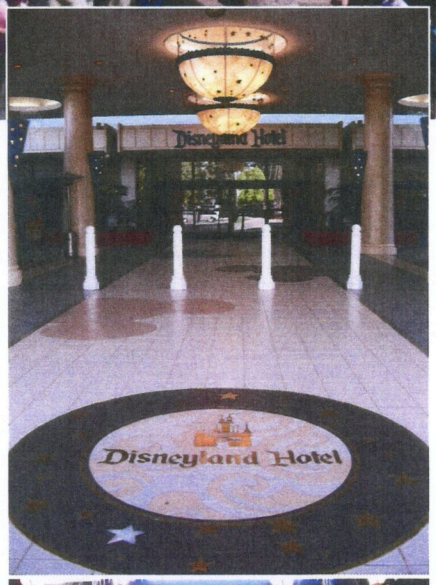
Kent Sheranian, principal lighting designer, Walt Disney Imagineering

Jeff Vahle, senior vice president, facilities and operations services, Disney Parks and Resorts



Newly renovated inside (small inset photo) and out (large photo), "it's a small world" (captured here as it appears during the holiday season) now features a facade that has been entirely relit. LED technology creates a color changing display that synchronizes with the clock show; the LEDs also respond with a wash of rainbow color as the train travels past the attraction. Facing page: Snow White's Castle (large photo) is the focus of Main Street, where a statue of Walt Disney and Mickey Mouse (inset) serve as a central meeting point. The resorts on the property include the Disneyland Hotel (center) complex, which is in the process of being renovated, and the new Grand Californian Hotel (below).





Q. ***Disneyland is the first destination of its kind in terms of scale and scope. Has it helped or hurt being in this position as a "Walt" park (a property designed and built under Disney's direction)? Are there more rules? And do you have certain criteria you use to introduce concepts and keep things fresh?***

Baxter: When Walt created this park, he put it in California because *he* was in California. And due to proximity, there's a synergy between the film studio and Walt Disney Imagineering (WDI), and Disneyland operations that allows us to come back and forth and experiment. That's how Walt wanted it. If something new was launched one afternoon, he could come down here, check it out under the lighting at night, sleep in his apartment (which is still maintained on Main Street), and then go back up to the studio in the morning.

As a result, we have many rides and attractions here at Disneyland that are not in any of the other parks: the Matterhorn Bobsleds, Alice in Wonderland, Storybook Land Canal Boats. There's also a charm and tightness and a wealth of things to do at Disneyland. It's ultra rich.

Sheranian: And attractions are updated all of the time.

Baxter: Our challenge, when we add things, is to make them appear naturally. The worst thing we could do is make it look like an intrusion on the environment, considering it has been so richly thought out and lovingly cared for over the past 55 years.

Most of our rides and attractions happen indoors so we can control that environment and deliver the optimum experience to guests. But on the outside, we have to create something that's always attractive, looks new, and fits into a particular atmosphere.

Does it not only fit into Disneyland, but then does it fit in the logical subset of Fantasyland or Adventureland? These are things we ask ourselves a lot stronger in California, because there is that level

(Continued overleaf)

Mechanics Behind Magic

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we have to uphold not only for ourselves but also for a very discriminating audience.

Sheranian: Our clientele here at this park is extremely discriminating. We get much more critical issues written up on the Internet for our part, because guests come and visit Disneyland multiple times in a year.

McIntyre: The reality of the theme park business here at Disneyland is that we need new products, attractions, and entertainment experiences to give our guests reasons to come back. A ride has an approximate five year development cycle and can cost tens to hundreds of millions of dollars. Smaller special events can be turned around faster.

Q. ***"it's a small world," one of the older Disneyland rides, has just undergone a major rehabilitation. [For more details on this project, see the sidebar below.] Using that as an example, how involved was the***

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LEDs Revive "it's a small world"

By Heidi Schwartz

Brought back piece by piece from the 1964 World's Fair in New York, "it's a small world" was slated for closure and renovation in 2008. Featuring figures, pieces of track, and lighting technology bordering on the antique by modern standards, the ride was in desperate need of an overhaul. But that overhaul—along with significant enhancements—was the subject of hot debate amongst Imagineers, park loyalists, and others involved in the project.

Once it was decided that the rehab could no longer be delayed, it took just over two years to complete the project. Much of the work was scheduled in advance, since the loss of a major attraction put additional strain on crowd management in other areas of the park. "From that perspective, losing the ride had forced us to postpone some of the mechanical upkeep that we knew we needed to do," says Tony Baxter.

A major component of the project was the track replacement. Fortunately, "We could get ahead of that," notes Baxter, "since we could mold the new pieces in advance. We'd see the track and the new boats arriving in the back, but when it came time to pull out the big S-shaped pieces of old track from the building without damaging any of the show, it became more complicated. That's why it took a year."

A very simple, yet essential, piece of the overall puzzle was solved by the incorporation of LED technology. Kent Sheranian explains, "The World's Fair version of 'small world' actually had different colors on a rotating wheel in front of a light. It was so difficult to maintain, because there were hundreds of motors turning these things. When they brought it here, they abandoned that and just lit it differently. As a result, it was much darker when it opened in here in 1966."

During the renovation, "We repainted it with a white palette, so we could project any kind of color on it that we wanted," says Baxter.

Disney's Corporate Alliance with Siemens (which officially kicked off in 2005) brought OSRAM SYLVANIA into the picture. Mike Colotti states, "Just like so many new technologies, LEDs are changing our lives. The early versions of LEDs weren't very good; now the white and color changing aspects are amazing."

Doug McIntyre reiterates, "The advances in LED technology are transforming our business in many ways. In addition to being more compact, they're also cooler and more energy efficient. Now we can put light fixtures in places we couldn't before."

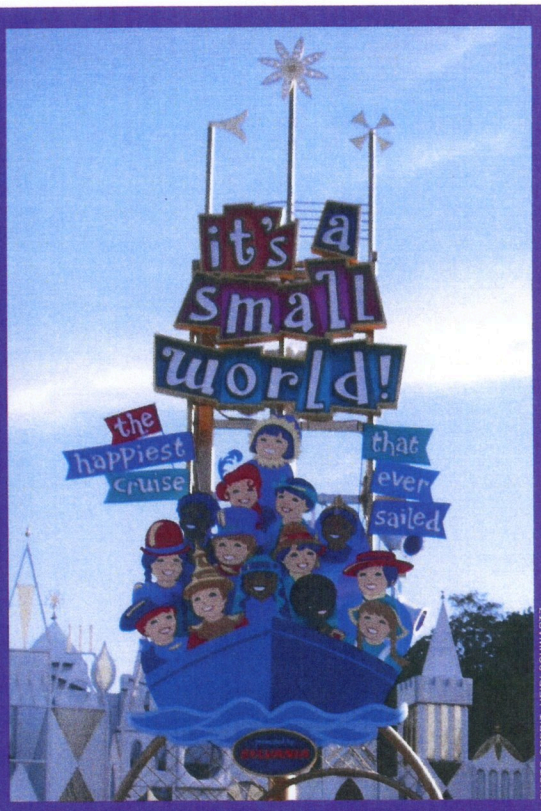

PHOTO CREDIT: HEIDI SCHWARTZ

With such a heavy emphasis on lighting, the "small world" renovation project benefited significantly from a collaboration between Disney and its Corporate Alliance partner, Siemens (the parent company of OSRAM SYLVANIA).

"The emergence of new technologies allowed us to reproduce the original effect in a more maintenance friendly way. We were able to use a lot of LED lighting, so there's a very beautiful, wide range of pastel colors in a palette that actually rolls," Sheranian adds.

Because some of the figures and lighting elements are featured in the exterior area of the ride, the challenge was compounded. Without LEDs, Sheranian doubts the rehab would have had the same impact.

When "it's a small world" reopened, team members knew their work had to live up to some very high expectations. "It was almost as if we were attacking one of the great cultural monuments of the United States," Baxter notes, "but we couldn't really let the public know what we were doing until we were at the finish line. As a result, we had a huge impact that opening day. The line was so long, it was as if 'small world' was a brand new attraction. Some of our toughest critics beforehand became our fondest advocates after they saw it. Clearly, it was a challenge all the way through the project, but we felt we *had* to do it to make the ride more relevant to younger children who are growing up in a different world." ■

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facilities department with regard to the operations and maintenance aspects of this refurbished project?

Langhorst: The "small world" refurbishment/rehab was essentially an asset management project carried out internally. As a result, the engineering and maintenance team partnered with our project management team and essentially designed the modifications required for the attraction from the very beginning.

The ride hadn't really been modified or rehabbed since the 1964 World's Fair when it was brought out here. In the rehab, we worked closely not only with our engineering and maintenance teams to ensure the things we were doing were right in terms of materials, maintenance, and accessibility, but also ensured our WDI partners that the new show was properly displayed, installed, and accessible. From our perspective, we're really concerned about sustaining the magic, but if we can't sustain it, it's not magic any longer. As a result, we were involved right from the beginning.

In other projects that originate with the WDI group, we'll have a facilities person/engineer on the team. Then a maintenance person links in early in the process to ensure those things are considered and designed to meet our requirements.

Vahle: We have a great relationship with the development team at WDI, which creates a very good total cost of ownership perspective. Many times, the development company will hire our engineers or bring in our maintenance team to make sure we learn from past developments. However, you wouldn't have seen that level of integration between the development and maintenance sides 10 years ago. This has been one of the evolutions of the business. Now both groups bring tremendous value to the process; they don't bring problems, they bring solutions.

PHOTO CREDIT: HEIDI SCHWARTZ

Projects at Disneyland (like this work on the Disneyland Hotel) are always in progress, but newer ones are looking to ensure that demolition materials are recycled. This one aspect of a new operating paradigm for Disneyland may be part of the organization's ever evolving best practices.

Q. And where does technology now fit into the process?

Vahle: The technology that's implemented by us involves things like control systems, which are designed, developed, and maintained by the engineering community. However, we're implementing some systems that are starting to blur the lines between what's facility work and what's IT work. As a result, we're starting to see the need for greater integration with the IT group.

Q. How has the integration of technology helped Disneyland with safety, environmental efforts, and other operational activities?

Vahle: From a guest safety perspective, smart restraints would be one of the most significant advances. These systems know when they're not latched, so a car can't be sent when a restraint is not engaged. Other advances include intrusion mats or through beam sensors that shut the attraction down automatically when an unsafe condition is detected.

Most of our focus from a technology perspective is on how we make sure the guest is in a safe position in our attraction. Technology has eased much of the auditing and reporting burden to be able to create a safe environment.

Dela Vara: With regard to sustainability in an environmental sense, there's no question we understand an investment in the environment is an investment in the future. So over the years, we have been looking at a number of innovative technologies for energy, and we just haven't been able to find the right fit. There are always two or three in the works; it's just a matter of time. Obviously, we're not going to put a wind turbine in Frontierland, but maybe Tomorrowland. Who knows? Walt said Disneyland will never be finished, and he was right. In terms of the work we do environmentally, we can't look at tomorrow. We've got to look at the next 55 years—and 55 years after that.

Some of the technologies we have incorporated include variable frequency drives and thermal storage. And the submarine voyage attraction has been converted from diesel engines to electricity through inductive power transfer.

In other words, the submarines on the Finding Nemo ride are propelled by the transfer of energy through magnetic coils.

Also, today the steam trains operate on biodiesel made from cooking oil that we use to cook our french fries in. The fuel is processed at a very local facility and returned here. The cost is slightly higher, but there is a lot to be said about being able to stabilize fuel costs (which we weren't able to do with diesel). It's the right thing to do, and our guests just love it.

Oddly enough, there have been some guests who have come to the park and ask what happened to that familiar smell from the trains? They grew up with the smell of the diesel, and now it's a sweet smell instead. Personally, I'm comforted knowing my grandkids will grow up with that sweet smell to trigger their wonderful childhood memories.

***Q.** Lighting is clearly an important part of the Disneyland experience. Because of California's strict energy initiatives, have the latest lighting technologies opened up new possibilities that respect the creative integrity of the park?*

Sheranian: It's exciting, but it's also a challenge. We have certainly been given clear direction by our CEO to reduce our electrical consumption at the resort, not just in terms of lighting. Fortunately, we can do that through the better use of other technologies.

But when we undertake any rehab, we carefully evaluate the high efficacy sources that are available and use them where we can. This has to be done selectively, because a compact fluorescent screwed into a Victorian chandelier on Main Street is just the wrong story.

Baxter: That's an esoteric point. We're always on the difficult side of that argument, because the natural thinking is that it's light and it's bright, but from our perspective, the temperature is wrong.

Sheranian: In more hidden sources in our shops and our facilities here we do use more high efficacy sources as they get better and better, which they do every year.

Baxter: The challenge for lighting manufacturers is to design a replacement for the incandescent light that is dimmable and fits in the same socket. If it has 10,000 hours of life and costs nothing to run, that's a bonus—as long as it looks like an incandescent bulb. If it can do that, I'll be happy. TFM

Do you have a comment? Share your thoughts by writing to schwartz@groupc.com, or search for additional articles on this subject in the archives at http://todaysfacilitymanager.com.