BACK TO THE FUTURE (Part Two)

For the 1900 Paris Exposition Universelle, several of the Gallic country's forward-looking artists imagined the wonders of the 21st century in a series of illustrations called "France in the Year 2000." Brainstorming the world to come, they conjured up fireplaces filled with glowing chunks of radium heating homes, and barbershops furnished with a cross between a lamppost and a mechanical spider shaving shaggy customers. Predicting the future can clearly be more miss than hit, but EXHIBITOR's look at the technologies transforming trade shows will let you glimpse a bit of tomorrow today.

By Charles Pappas

ILLUSTRATION: MARIO WAGNER

Geofencing

What is it?

Geofencing refers to hardware and software that use technology such as Radio Frequency Identification (RFID), GPS, Wi-Fi, and Bluetooth low energy (BLE), aka Bluetooth Smart, to set up a virtual boundary, or fence. This boundary is established around a fixed geographical location, such as a store, neighborhood, or exhibit. When a person crosses over that boundary, the beacon senses that individual's smartphone (and, in some cases, tablets such as the iPad), which automatically triggers an activity, such as sending an email, text message, picture, or perhaps a coupon to the person's mobile device.

How fast is it growing?

Geofencing has been around for several years, but two factors account for the technology's phenomenal growth spurt: the transition from traditional cellphones to smartphones, and the migration from desktop computers to mobile devices. According to eMarketer Inc., smartphones will account for 57.8 percent of all mobile phones worldwide by 2017, a jump of about 49 percent since 2012. As consumers' phones become increasingly complex, so grows the potential afforded by geofencing. Secondly, as Americans in particular tend to favor mobile devices over comparably static computers, companies are moving from the standard geographic targeting aimed at desktop users based on city or ZIP code, to the more fluid locales of smartphone users. As a consequence of this shift from stationary targets to more mobile ones, Allied Business Intelligence Inc. forecasts that the geofencing market will be valued at $300 million by 2017.

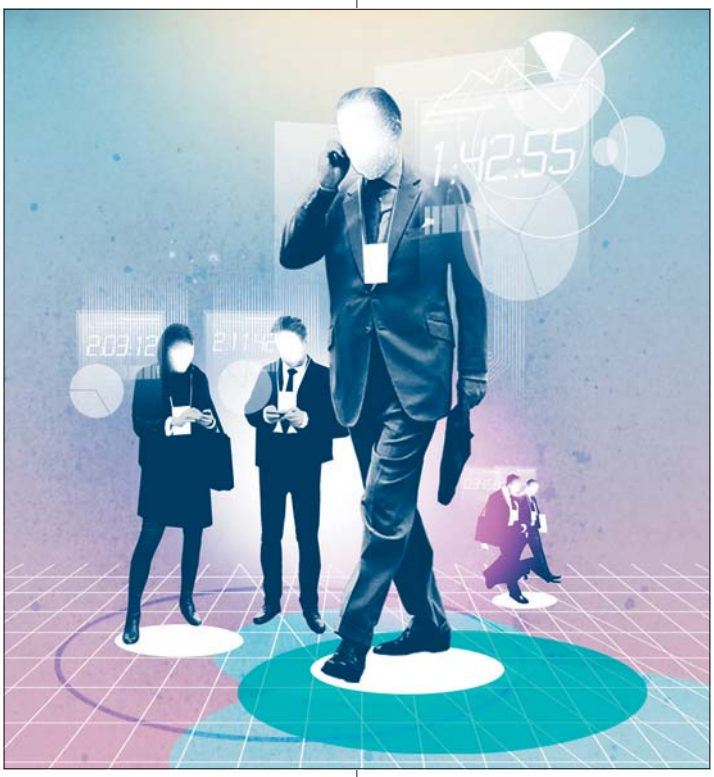
With the upsurge comes the emergence of a new generation of geofencing technology that works with dedicated apps to deliver services and information. Generically called beacons, they are now offered by approximately 20 companies under a variety of names, such as Apple Inc.'s iBeacon and Qualcomm Inc.'s Gimbal. Often about the size of a hockey puck, these diminutive devices generally use BLE to transmit data as far as 250 feet.

While the technology is still in its formative stages as an exhibiting tool, many analysts predict 2015 will be a banner year for geofencing in the trade show industry. "Within three years, we expect to see indoor location services available at all major trade shows and exhibitions, offered as a value-added service by the exhibition centers themselves," says Dr. Bruce Krulwich, the chief analyst for Grizzly Analytics LLC, which focuses on mobile technologies before they reach a much broader market.

How are marketers using it?

Every year since 2011, representatives from more than 1,300 companies across the globe, including Google Inc. and Kellogg Co., have gathered in Montreal for a conference known as C2 Montreal (C2MTL). Described as "somewhere between genius and insanity," C2MTL aims to help businesses integrate creativity and innovation into their often-regimented organizations.

With C2MTL organizers creating a calculated free-for-all atmosphere, the last thing they wanted was a verification/tracking system for its 4,000 attendees (90 percent of which are C-level visitors who pay more than $3,000 for the three-day event) that would make them feel like the Transportation Security Administration was eyeballing their drivers' licenses. But C2MTL did want a means to monitor traffic in various areas and respond to the inevitable ebb and flow of the crowds. Thus it turned to Connect&Go Inc., a Montreal company specializing in RFID for events.



When the event opened last May in a massive art gallery called the Arsenal, attendees entering the converted 19th century shipyard were handed an unassuming badge. But the 4.5-by-5.5-inch badges contained an Ultra High Frequency (UHF) Smartrac Frog 3D tag, and a Smartrac Circus Near-Field Communication (NFC) passive High Frequency (HF) tag. When attendees passed through the first of two sets of gates at the entrance, the UHF tag transmitted a unique ID number on each individual's badge to a program, which then verified attendees' status as paid for that particular day. Occasionally, mix-ups in payments and other issues occurred during the event. When that happened, staff, alerted by the registration information emitting from the enhanced badges, could quietly approach the person and tactfully resolve the issue.

A few minutes later, after passing through the second set of gates that led into the Arsenal's main conference room, attendees entered an area with a trio of 30-by-50-foot networking zones. Here, the conference organizers employed their second use of the technology. Hanging 15 to 18 feet overhead in each of the zones were chandelier-like objects, at the center of which were RFID readers. While attendees chatted and chowed down, the readers monitored their movements via their badges in the three 1,500-square-foot areas like a sentient satellite.

As the crowd ebbed and flowed, the readers ceaselessly issued a kind of traffic report back to the conference staff, including the general industry and specific occupation of those in the zones, along with their ticket type, and how much time they dwelled there. The analytics were used immediately to predict when and where more staff might be needed, and in the long term to plan for the 2015 event. By using geofencing, C2MTL organizers created a kind of invisible valet and gatekeeper that kept the event as relaxed as a stroll in a park.

While C2MTL employed geofencing to track attendees, the Cannes Lions International Festival of Creativity used the same technology to direct those attendees, instead. Held annually in the Palais des Festivals et des Congres in Cannes, France, the event recognizes companies from around the globe for their ingenuity in product design and marketing across 16 categories, from print to digital design.

Working with the Vancouver, BC, Canada-headquartered Eventbase Technology Inc., which created the festival's official app (called Cannes Connect), the organizers wanted to steer the event's 11,000 guests to the tent of its official sponsor, the Mobile Marketing Association (MMA), that stood right outside the Palais show hall. When any of the attendees who had downloaded the app came within 100 feet of the MMA tent, they received a notification via their smartphones from one of 40 Gimbal beacons placed throughout the tent. The missives summoned them to the tent to explore. Then, when they arrived at the 100-by-100-foot pavilion, they received a second notification welcoming and inviting them to view the attractions, including the Interactive Gallery for the Mobile Awards. Moreover, the beacons sent them a prompt to officially check in, as well as participate in in-app discussions and real-time polls.

Similarly, when visitors perused any of the companies highlighted in the Interactive Gallery for the Mobile Awards, the beacons sensed their proximity to that particular award display and delivered a message to guests asking if they'd like to learn more about the specific campaign. If so, a screen appeared on their phones displaying information about the companies who produced the project, and other highlights in their curriculum vitae.

Geofencing can augment the interpersonal as much as the informational. Within the confines of the event space, the app displayed profiles of fellow attendees within users' vicinity, enabling guests to check out others' LinkedIn profiles, and, if they wished, to send them a message. Nearly a third of the event's attendees — about 3,500 — made use of the opportunity geofencing offered to connect with the kinds of information noted above and with each other as well. As Robert Frost said, "Good fences make good neighbors." And good geofences can make for good communication.

Where can you find out more?

Even if you're a Mensa member, you'll find that "Location-Based Marketing for Dummies" by Aaron Strout and Mike Schneider will raise your geofencing IQ. Follow that with "Go Mobile: Location-Based Marketing, Apps, Mobile Optimized Ad Campaigns, 2D Codes and Other Mobile Strategies to Grow Your Business" by Jeanne Hopkins and Jamie Turner.

If those tomes might end up in your "Too long; didn't read" bin, the Web is rich with quick-and-easy guides to the technology. Begin with the basics at "Geolocation 101: How It Works, the Apps, and Your Privacy," then surf over to Fruitful Tech's piece on "What Is Geo-Fencing and How Can Your Business Use It?"

In addition, check out Pushmote's blog post "10 Most Frequently Asked Questions About iBeacons." Finally, CMO.com's "What Marketers Need To Know About Geolocation Targeting" and Bizness Apps Inc.'s "What is Geo-fencing and How Will It Help My Small Business?" will put you in the know.

Drone Technology

What is it?

Conceived as a way to annihilate enemies from a distance without incurring casualties, drones (remotely controlled, pilotless aircraft) achieved liftoff when the Austrian army used unmanned and explosive-filled balloons to bombard Venice in 1849. The crafts' ascent continued with similarly weaponized balloons in the Civil War, and experimental aircraft in World Wars I and II and the Cold War, culminating with the 1995 debut of the MQ-1 Predator. Now also called unmanned aviation vehicles (UAVs) and unmanned aerial systems (UASs), military drones can be massive "hunter-killers" such as the RQ-3 DarkStar, which weighs 8,500 pounds and boasts a 66-foot wingspan.

Civilian and commercial versions appropriate for the exhibition and event industry, however, come in extensively downsized models, such as those manufactured by 3D Robotics Inc. and Parrot SA. Typically measuring roughly 2-by-2 feet and weighing approximately 5 pounds, the battery-powered units resemble avant-garde ceiling fans.

Controlled via radio or by Wi-Fi, these avian appliances are steered with a joystick, smartphone, or tablet, and can generally stay aloft for periods of 15 to 30 minutes before needing to recharge, with a range of roughly 300 to 3,000 feet. Drones can also be programmed using GPS to automatically fly to and from selected points, as well as follow a user by tethering themselves to a signal from users' smartphones. In addition, many drones now come standard with a camcorder attached, such as those offered by GoPro Inc.

How fast is it growing?

Drones are evolving from their initial military functions to commercial and consumer applications. Venture-capital investors in the United States poured $40.9 million into drone-related startups in the first nine months of 2013, more than double the amount for all of 2012, per research compiled by the National Venture Capital Association. The Association for Unmanned Vehicle Systems International (AUVSI), the trade organization for drone-related companies, projects that the global market for the unmanned vehicles will hit $140 billion in 10 years, with more than $80 billion of that economic impact landing in the United States. Drones are taking off at such a clip that the Consumer Electronics Association predicts sales of the small civilian drones may crest at 400,000 units this year.

With a projected economic impact domestically almost 50 percent greater than the combined revenue of Delta Air Lines Inc. and Southwest Airlines Co., it's no wonder companies consider drones' potential to be stratospheric. Increased revenues generated by drones would be augmented even more by the slashed costs they offer: FedEx Corp. estimates that drones would reduce the average price of shipping air cargo by 80 percent. Not surprisingly, Amazon Inc. and Google Inc., two companies that were in the vanguard of the digital revolution, grasped drones' prospects early on. Amazon's proposed Amazon Prime Air would use octocopters — miniature, eight-rotor drone-like helicopters — to grab packages off a conveyor belt, then whisk them to customers who live inside a 10-mile radius of its many warehouses within 30 minutes.

How high drones will soar hinges on the Federal Aviation Administration (FAA). Spurred by Congress' FAA Modernization and Reform Act of 2012 to permit drones access to

U.S. skies by September 2015, the federal agency was set to clarify rules and ease regulations for them by Sept. 30 of this year. Overwhelmed, however, by the complexities and risks of the issue — including nearly 200 incidents last year in which drones were reported near airports or in restricted airspace — the FAA has now delayed action indefinitely.

In the meantime, the FAA has started granting commercial permits on a case-by-case basis to 13 companies out of about 170 that have applied that allows them to fly drones. For example, AeroVironment Inc. uses its drones to monitor energy corporation BP PLC's Prudhoe Bay oil field on Alaska's North Slope.

You don't need a legal pad to understand that airborne pizza deliveries aren't coming soon. But for exhibits and events, there is some leeway. For now, civilians can fly drones weighing less than 55 pounds, so long as they fly no higher than 400 feet in the sky and stay within the operator's line of sight. Operators must also avoid traditional aircraft, and receive permission from air-traffic controllers before taking off within 5 miles of an airport. "Drones offer some interesting new ways to frame or capture standard experiences at events and trade shows," says Joe English, the Hillsboro, OR-based event designer and futurist. "Imagine being able to film an event or activity in real time from a bird's-eye view overhead and to provide that to attendees."

How are marketers using it?

When Monster Worldwide Inc. planned to debut its revised brand and updated logo for its Monster.com employment website at the 2014 HR Technology Conference & Exposition in Las Vegas, the New York-headquartered company turned to an activity almost as old as jobs themselves: a game of capture the flag.

Working with Czarnowski Display Services Inc., Monster planned its own variation of the venerable activity to build booth traffic during the show, and thereby expose a maximum number of attendees to its rebranding efforts. The game consisted of hiding branded flags around the Mandalay Bay Hotel & Casino complex where the show was held, and then displaying clues to the flags' locations in its booth.

Coincidentally, one of Czarnowski's designers had been researching trends at the time he was working on the booth and realized that deploying drones to record hints of where the flag was hidden would be a clever tactic. After securing permission from Mandalay Bay management, Monster hired Vortex Aerial, a drone operator from Corona, CA. A couple of days before the show opened, two Vortex staffers sent up a drone with a camcorder around Mandalay Bay, shooting aerial video of the grounds, including the pool area and a parking garage where two 10-by-20-foot flags were placed. The flags, colored in Monster's purple hue and sporting its new logo, were large enough to be easily captured on the video that was taken from approximately 200 feet overheard, and therefore easier for attendees to spot. After the filming, Monster removed the big banners, and left smaller ones in their place that attendees would have to find.

A 90-inch monitor stationed near the main entrance of Monster's booth piqued attendee interest with a continuous loop of the video clue for that day — high-up shots of the flag near the resort's poolside cabana. Baffled visitors, drawn by the mesmerizing video with its bird's-eye view of terra firma repeating over and over again on the massive 7.5-foot screen, approached Monster staff to inquire about what was going on. Staffers explained that the video was a tease and clue for the capture the flag game that anyone could play. For the first two days of the expo, anyone who wanted to take part had to scour the entire Mandalay Bay grounds for the small, purple flags branded with the new company logo. Staffers sweetened the pot by adding that the winner for each day would receive an iPad Mini for their successful efforts.

The bait of a competitive game, with clues supplied by one of the seminal technologies of the 21st century, was enough to coax 445 attendees — about 30 percent more than Monster expected — into competing with others in a mad dash to find the flags. The company reports that those attendees spent an average of nearly two hours each over the course of the event looking for the flags. Monster used the aerial tool to persuade attendees to literally seek out the new brand, and expose hundreds to its rebranding — which left the company flying high.

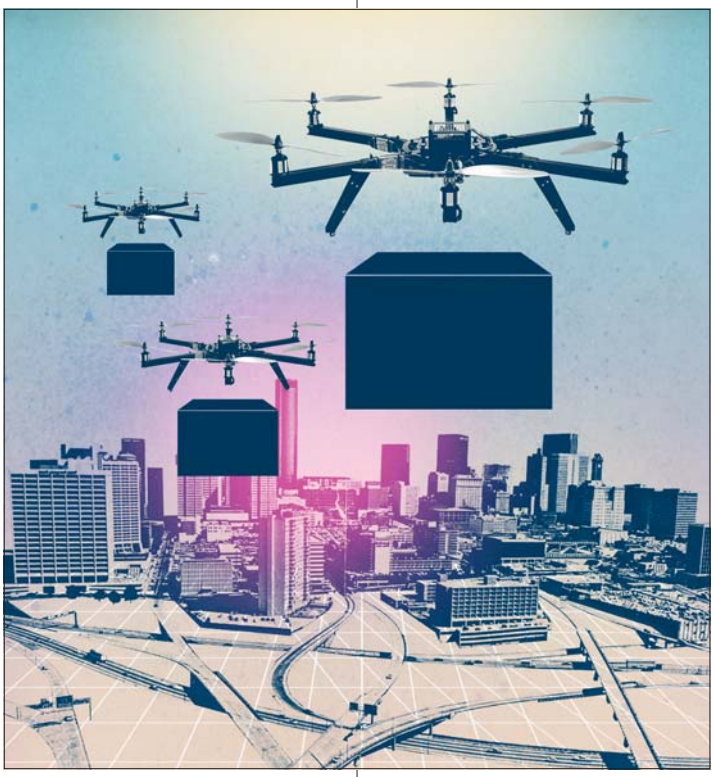
Where can you find out more?

Mashable's illustrated history of drones and its article "Not All Drones are Created Equal" will give you a true sense of the depth and breadth of these aeronautic gadgets through visuals. Meanwhile, Gizmag's online unmanned vehicle section supplies articles that reflect the expanding adoption of drones.

Once you've piqued your interest with those sites, buckle down for some in-depth reading with "The Beginner's Guide to FPV" by Alex Protogerellis, and "Getting Started with Hobby Quadcopters and Drones" by Craig Issod.

Just as drones have to obey the laws of physics, people have to obey the laws of the land — and the sky. To that end, Drone Laws' article "How to Use Your Drone Legally in the United States" and the website Know Before You Fly will untangle all the knots of drone regulation for fliers. Run by a drone enthusiast, MultiRotor and Drone News, Information, and Resources focuses on legal and safety issues, new products, and even filmmaking as it pertains to the technology. And the weekly digest of industry news at the Association for Unmanned Vehicle Systems International covers topics with a wingspan stretching from legislation to surveillance.

Coca-Cola Co. took to the skies with drones as well. As part of its international "Where Will Happiness Strike Next?" marketing campaign playing off its "Open Happiness" slogan, the Atlanta-based company planned on honoring migrant workers in Singapore. Hailing from China, India, and Thailand, among many other countries, these 1.3 million guest workers (who are typically low- or semi-skilled foreign workers permitted to live and labor in a given country for a short period) toil at grinding jobs in the manufacturing and construction industries, often earning as little as $1.60 an hour. Launched five years ago, the ongoing "Where Will Happiness Strike Next?" promotional effort was designed to inject a measure of delight into a place or circumstance that's usually rather drab, the way a bottle of Coke might invigorate a dreary day.



Joining forces with the communications firm Ogilvy & Mather Singapore and the nonprofit Singapore Kindness Movement (SKM), Coca-Cola decided to focus on a group of construction workers at three sites. But besides the mountain-high barriers of distrust and marginal legal protections that set the workers apart as surely as the sound of a leper's bell, the firm faced another daunting logistical impediment: The crew would be on a metal skeleton of girders and platforms at heights rivaling the Great Pyramid of Giza. So to reach this unappreciated caste, Coca-Cola employed drone technology.

Over a three-day period in March 2014, SKM volunteers asked thousands of Singaporeans to create personalized messages of gratitude and support for the guest workers. Consisting of handwritten notes and photos of the individuals who penned them, the messages were attached to individual cans of Coke. At the end of the three-day effort, the notes were packed into branded metal boxes painted Coke red and printed with the company name in its signature flowing script. Each box was then attached to a small, custom-designed delivery drone and sent soaring, some as high as 35 stories in the air, to their intended recipients on the construction sites who received the carbonated manna with smiles. In all, nearly 2,800 workers popped open a chilled can of Coke and quenched their thirst. But the construction workers took infinitely more pleasure from the handwritten messages attached to the deliveries, all of which could be distilled in this one example: "For all the hard work you've put into our beautiful city — thank you."

Transparent Displays

What is it?

Transparent (aka translucent, see-through, or screenless) displays are similar to traditional flatscreen monitors but are completely — or at least mostly — invisible when in use. Different versions of the technology range widely from devices projecting 3-D images using holographic technology to electronics using organic light emitting diodes (OLEDs) made of transparent materials. While overlapping with augmented-reality (AR) devices such as Google Glass, transparent displays are mainly aimed at replacing traditional screens such as flat-panel displays and touchscreens often employed as standalone information kiosks in booths.

How fast is it growing?

Identified by the World Economic Forum's Global Agenda Council as one of the top 10 emerging technologies, transparent displays are exploiting a recent wave of advances in electronics and materials to morph from being an outlier technology to becoming a mainstream one. Research from NanoMarkets LLC has concluded that the market for transparent OLEDs and transparent LCDs combined will hit about $4 billion by 2021, a rise of almost 15,000 percent from 2014.

Compelling the demand for transparent displays are three areas where they're used extensively: AR and wearable technologies, such as enhanced eyewear for military, consumer, and industrial use; heads-up displays (HUDs) for vehicles; and stand-alone displays for retailers and exhibitors. For example, Google's AR-based Google Glass, and its competitors hailing from companies such as Sony Corp. and Vuzix Corp., represent a niche that sold roughly 4 million units and generated $2 billion in 2014.

That adoption rate, per Deloitte Touche Tohmatsu Ltd., will move from brisk to torrid by 2020, when the research firm predicts global demand for the technology will result in more than 100 million units sold.

In the retail and exhibiting world, transparent screens will replace conventional computerized displays in the same inexorable way LEDs usurped their incandescent counterpart, per research from NanoMarkets. Indeed, exhibitors and retailers are crafting a fascinating hybrid that merges transparent displays with traditional display cases. Products from cookware to footwear are placed behind the nearly-imperceptible displays, which can then run text, graphics, animation, and video in whatever configurations an exhibitor might wish. The result is information that appears over the products, creating an AR experience that enthralls as much as it entertains.

"Transparent displays are providing companies with a way to further blur the lines between digital and physical at shows by overlaying digital product images onto real ones," says Dana Drissel, the senior director of marketing for Kaon Interactive Inc., which provides interactive 3-D product marketing and sales applications. "This creates product messages or demonstrations that are as memorable as they are unique."

Marrying flexibility to transparency will jump-start the next wave of see-through displays. San Jose, CA-based research and consulting company Displaybank Co. Ltd. estimates the market for transparent flexible displays will surge to $6 billion in 2018, and then soar to $77.6 billion by 2025. The appearance of these and other bendable displays is, in part, due to the use of polyimide as a substrate for the OLED screens. A durable and limber plastic, polyimide was once expensive to adhere to glass, an obstacle soon to be surmounted.

How are marketers using it?

Nearly 31,000 attendees travel to Fabtech from more than 70 countries to see companies such as ESAB Welding & Cutting Products exhibit equipment and services related to the cutting, forming, fabricating, finishing, and welding of metals. For the Florence, SC-headquartered ESAB, Fabtech is an opportunity to show off its metal-cutting mojo in the fields of welding machines and related equipment.

But displaying its multitude of products, or demonstrating super-hot plasma cutting that blasts through most metal as easily as a cruise missile slices through air, is a challenge. While ESAB had a 100-by-100-foot exhibit to show off an extensive line of offerings, the booth's impressive dimensions might almost have been irrelevant. That's because the company wanted to show its wares in several configurations without the cost of bringing more product to the show. Equally as important to ESAB, it wanted an imaginative way to convince attendees that a 110-year-old company (its founding predated the invention of arc welding by two years) embraced innovation. Thus, using a transparent display would allow ESAB to simultaneously show more product configurations and promote itself as a company embracing the future.

Working with Inhance Digital Corp., a multimedia marketing agency based in Los Angeles, ESAB brainstormed the issue before settling on a transparent screen called HoloPro to display its products. It chose the screen, which could depict images in 3-D holographic form, for much the same reasons companies turn to 3-D printing or geofencing to promote themselves: Besides the technical advantages the technologies provide, they also confer something equal parts subtle and powerful. As communications theorist Marshall McLuhan presciently said almost 50 years ago, "The medium is the message," meaning that the specific mechanism you communicate with — say, print, TV, or the Internet — affects how we view the information being transmitted. In this case, ESAB hoped that the message a futuristic transparent screen would send to attendees was one of a pioneering and innovative spirit.

When Fabtech opened in Chicago's McCormick Place, attendees walking by ESAB's 10,000-square-foot booth were drawn to the 111-inch HoloPro screen placed on the exterior wall. The screen's illusion of translucence made it seem less like a commonplace monitor running prosaic

product information than a hole cut in space and time, with an expanse as deep as the void between stars.

Even though one of the company's 35 staffers was always nearby to guide visitors, the HoloPro was designed to be a self-directed experience. Visitors stepped up and chose a product from the menu covering the five business units ESAB was exhibiting. Once they touched their selection on the screen — which, given its exceptional illusion of depth, seemed almost like reaching into a vast and dark night sky — they then drilled down to one of the products or product lines in that category. If they chose the Purox Elite Series, for example, they could view that line's welding accessories via a variety of 2-D, 3-D, animated, and video imagery. Callouts allowed attendees to investigate the products in deeper and deeper detail. They could also isolate and focus on specific parts — such as a baffle plate — and even spin them like an old-fashioned globe to view from different angles.

Like an enchanted mirror from fairy tales, the transparent display entranced visitors and kept them rooted in place. ESAB's products might be relatively mundane when seen on the physical plane, but viewed through the transparent screen, they seemed to float in a dark space disdainful of gravity. Riveted guests spent up to 15 minutes studying and scoping out the company's offerings, longer than they typically spent with the products' real counterparts. That's likely because they could take their time and explore the tools in-depth with an ease not really possible in the physical realm.

If ESAB used a transparent screen to burnish the image of technology more than a century old, Intel Corp. used one to enhance the image of a technology in the making. When the Santa Clara, CA-based company wanted to highlight its Ultrabook notebook computers in the Intel Museum last year, it faced a quandary peculiar to much of silicon-era technology: How do you convey the magic of notebooks that roughly resemble models from years before, but whose quantum-leap improvements — including a supermodel-thin 0.8 inch-profile, extended battery life, and processors that sip energy about as much as a teetotaler sips whiskey — are largely elusive to the naked eye and evasive to physical experience? Instead of two-dimensional graphics panels that are as intrinsic to museums as dioramas and gift shops, Intel tapped into Delphi Productions Inc. (aka Group Delphi) for extensive design and strategic help and realized that it could use the magic of one technology to convey the power of another.

Visitors inside the Intel Museum, which sports exhibits on Intel's history and products, encountered a 10-by-11-foot exhibit dedicated to the Ultrabook. In front of the exhibit rested a 42-inch, transparent LCD touchscreen on a freestanding podium. Set behind the see-through screen like an exotic orchid under hothouse lights was an Ultrabook. To explore its capabilities, guests pressed any of five oval icons — Touch, Convertible, Performance, Responsive, and Security — on the screen that seemed to be suspended in midair around the computer. For example, if they pushed on Security, a brief blurb of information materialized on the screen. At the same time, more info was superimposed on the Ultrabook's screen (while displayed via the transparent touchscreen, the text appeared to emanate from the notebook) and additional data was projection mapped onto two screens on the wall a few feet behind the notebook.

The scene of visitors accessing and manipulating information that seemed to emerge in thin air by itself was almost cinematic. In fact, it summoned one of the seminal moments from the science-fiction movie "Minority Report," where Tom Cruise manipulates objects on a transparent screen with the dexterity of an orchestra conductor. By using the transparent screen (whose interface was designed by San Francisco-based Stimulant), Intel cleverly evoked what psychologist Edward Thorndike termed the "halo effect," where the pleasurable or positive qualities of an object transfer to objects near it. In this case, the marvels of the screen, suggesting futuristic technologies barely distinguishable from magic, brought the Ultrabook's technical wonders alive to an audience who might easily have overlooked them. E

Where can you find out more?

The primers at How Stuff Works will help bring the sometimes fuzzy picture of transparent displays quickly into focus with pieces such as "How OLEDs Work" "and "Can a TV be Transparent?" Not surprisingly, OLED-Info.com offers a quick read with "Flexible OLEDs: introduction, applications, and market status."

If the above give a good glimpse of what's currently available or what soon will be, the following give a peek into a future so bright, you'll need a pair of welder's glasses. See what we mean when you check out TechTheFuture's "MIT Turns Windows into Transparent Information Displays," International Business Times' "MIT Recreates Tony Stark's Iron Man Transparent Projection Screen," and Gizmag's "Graphene-Based Transparent Touchscreens and Solar Panels a Step Closer."

In the next and last installment of Back to the Future, we'll cover additional disruptive technologies — wearables, projection mapping, and immersive reality — that are turning the trade show world upside down and inside out.

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