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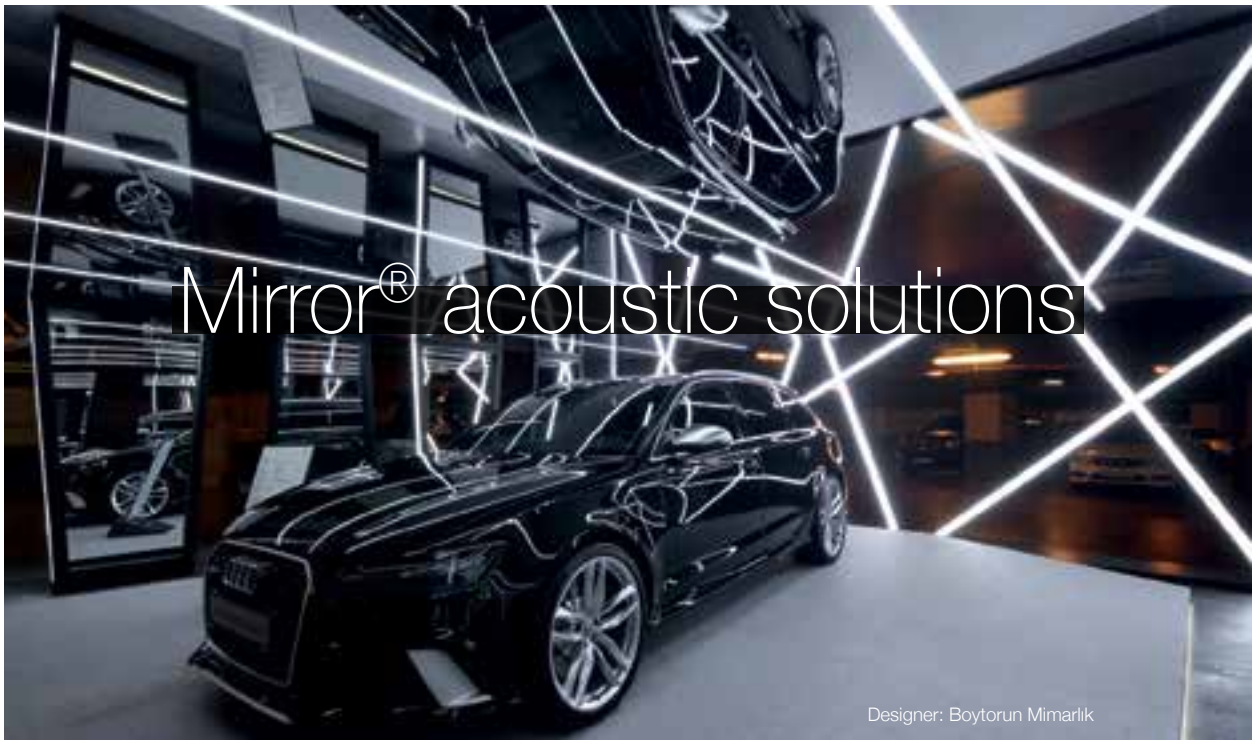


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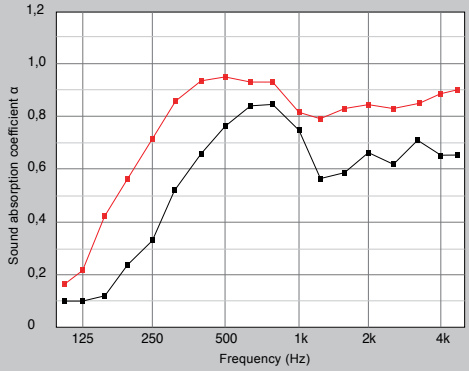

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Acoustical Interior Construction
JULY–SEPTEMBER 2017

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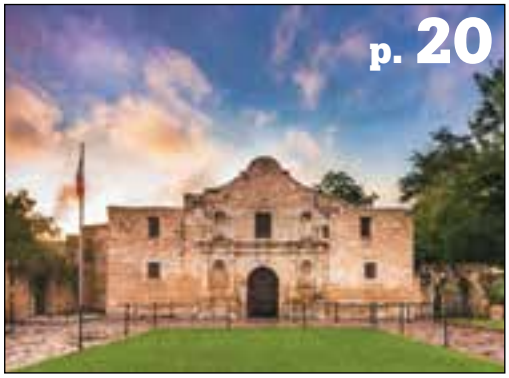

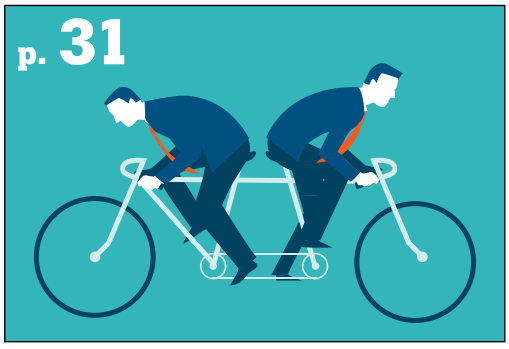

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Ceiling Solution
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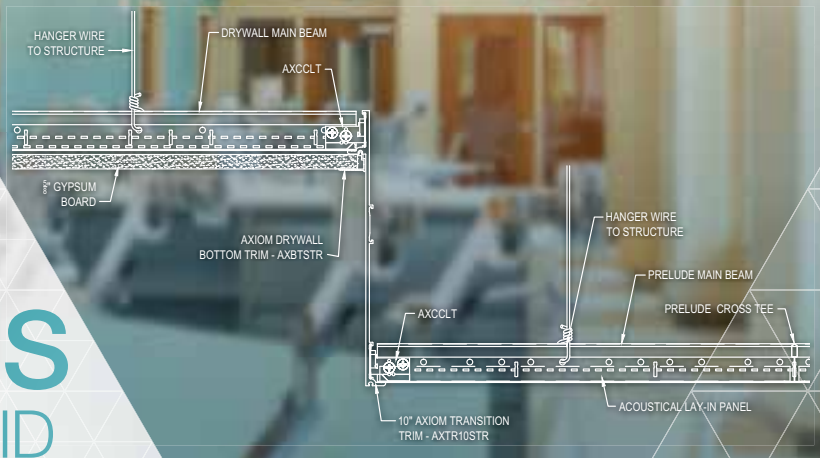

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PRESIDENT'S MESSAGE

"Quite simply, CISCA exists as a resource, and I want to amplify our presence in the industry. I want to increase the awareness of CISCA during the upcoming year and to shine a spotlight on our expertise."

BY PAUL GALLAGHER, C.J. COAKLEY CO., INC., 2017-2018 CISCA PRESIDENT

Increasing Awareness

Without looking it up, do you really know what the CISCA acronym is an abbreviation for? For years, architects, general contractors, contractors, manufacturers and vendors alike have consulted with and referenced CISCA. We are the recognized authority and resource for acoustical ceiling and interior systems, committed to contractors through education, leadership and networking opportunities. So, when I was asked to become president of CISCA, I have to admit that I did not have to think very long before I said "YES". I am honored to take the lead and navigate this prestigious association through the rapidly moving waters of the 2017-2018 year.

I have been asked by multiple people for my goals and aspirations for CISCA. Quite simply, CISCA exists as a resource, and I want to amplify our presence in the industry. I want to increase the awareness of CISCA during the upcoming year and to shine a spotlight on our expertise. CISCA exists to provide the acoustical ceiling and wall systems industry with a network of relevant opportunities for professionals to interact, grow and prosper through actionable education. To further the purpose of this mission, our board recently met, and we had a very productive meeting that saw the formation of four councils and under each of these councils, task forces have been formed to expand on these pillars. Keep a close eye on us as the following councils are energized and working towards elevating CISCA to the next level:

- Technical
- Membership
- Events
- Communication

This fall, CISCA is hosting our annual Fall Conference and Networking event in San Antonio, Texas, and this is already gearing up to be a tremendous opportunity for education and networking. We are always looking for new members and participation in our committees. If you are interested in serving on any of these task forces, please contact the CISCA office. Our Emerging Leaders group is a great introduction to CISCA for new members to network with other younger folks. Take the plunge, come join the group – and of course we have left time in the schedule for some fun and play. Lastly, it is not too soon to mark the date for the March 26-29, 2018 Convention at the Disney resort in Orlando, Florida.

I look forward to meeting you at a CISCA event this year. ■

"During the past year, the board entered into a relationship with the Wall and Ceiling Alliance. All of their contractor members are now members of CISCA. Please welcome these new members!"

BY JEFF HUDEPOHL, VALLEY INTERIOR SYSTEMS, 2016-2017 CISCA PRESIDENT

Looking Back, Looking Ahead

I am writing this article as your immediate past president. It was a great privilege to have served as your president during the 2016-17 year. I had the opportunity to meet a lot of members, make a few new friends and work with an incredible board.

First, I want to thank the board for a great year. Everyone had a sincere desire to see CISCA succeed in everything we do. Thank you!

I would now like to highlight some of our accomplishments this year:

1. During the past year, the board entered into a relationship with the Wall and Ceiling Alliance. All of their contractor members are now members of CISCA. Please welcome these new members! This relationship increases the number of people CISCA can engage with to educate and train on the importance of our industry! The advantage to the WACA members is that they are now part of a group of acoustical ceiling experts who can help them with every problem, big or small, they encounter on their jobs.
2. We had a great convention in Las Vegas in March. We had 93 companies represented, up from 86 companies represented last year. We had over 400 people registered for events. This is fantastic! It shows that our members are seeing the value of face-to-face networking and education. I have no doubt each person walked away with information and contacts that will help them on a daily basis.
3. In June we held our annual Emerging Leaders in-person summer meeting hosted by Owens Corning. We had many new attendees this year and they have all stated they got so much out of it and they are looking forward to attending other CISCA events. The 2018 event will be held at Rulon International in Florida. This event is a great way to get your younger and newer industry employees involved in CISCA, and at the same time introduce them to others who are having similar experiences in their careers.
4. We produced several videos this year – one on membership and two on safety. Look for more videos during the coming year.
5. The Construction Excellence Awards program saw new criteria this year along with electronic submissions and electronic judging. Everything was very well received. The 2018 criteria will be out during the next several months, so start planning which projects you will submit next year.
6. We changed the publisher of the magazine in July and have received very favorable comments on the new design and content.
7. The board had a one day intensive meeting in June during which they revamped CISCA's committee structure. Paul's article will give more detailed information on this topic, but I wanted to mention it here as it is a change for CISCA. We will be looking for people to serve on task forces or provide feedback on CISCA events.
8. Started this year, but finishing up during the next year, are two publications: "Challenging Installations" and "Wood Ceilings." Both publications are nearing completion. "Challenging Installations" is a new publication intended to address ceiling installations in locations such as pool areas and cruise ships.

Finally, I would like to congratulate Paul Gallagher on becoming CISCA's President. I know he will do an outstanding job. I am here to help you however I can, Paul.

I'm not going away. I have another year on the board and then I will join the past presidents group. I will stay active in CISCA and look forward to seeing all those I met this year at a future CISCA event. ■

CISCA
Ceilings & Interior Systems Construction Association

CORE PURPOSE

CISCA exists to provide the acoustical ceiling and wall systems industry with a network of relevant opportunities for professionals to interact, grow and prosper through actionable education.

VISION

CISCA is the recognized authority and resource for acoustical ceiling and wall systems committed to providing solutions to contractors through education, leadership and networking opportunities.

MISSION

Recruit and retain contractors
Provide relevant, effective education
Develop, update and promote technical and installation guidelines
Promote the acoustical ceilings and wall systems industry
Provide opportunities to allow those in the industry to advance their relationships with other professionals in the industry

SAVE THE DATE

FALL CONFERENCE AND NETWORKING EVENT

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2018 CISCA CONVENTION

MARCH 26-29, 2018 • ORLANDO, FLORIDA

C.J. Coakley, Co. participated in the Phoenix Project, the post-9/11 reconstruction of the Pentagon.

Paul Gallagher
President
C.J. Coakley Co.

Paul leads C.J. Coakley Co., Inc., an interior subcontractor servicing the Washington D.C., Maryland and Virginia areas. After an internship and receiving his BSc degree in Construction Engineering and Management from the University of Ulster in Northern Ireland in 1992, Paul joined C.J. Coakley Co., Inc. He has worked for the company since his graduation and became vice president in 2014. He has worked on several unique and prestigious projects in the Metropolitan D.C. area, including the Newseum. The Newseum, which opened in 2008, won Washington Building Congress' Star Award and CISCA's Gold Award for the Eastern Region in 2009. Paul is married to Beth and has five children, three of whom are currently in college, one at UVA and the other two at its state rival, VT. Outside of work, Paul enjoys participating with the kids' sport activities, working out and playing music.

Meet the 2017–2018 CISCA President!

BY META L. LEVIN

CISCA's new president has a soft, Irish brogue, left over from his time in Ireland. Paul Gallagher, vice president at C.J. Coakley in Falls Church, VA, had what could be called a meteoric rise in CISCA. Only three years ago he became a contractor director and, "here I am getting ready to become president," he says.

He's been around for a lot longer than three years. His employer, C.J. Coakley Co., Inc. in Falls Church, VA, has a long history with CISCA. Encouraged by two former CISCA presidents, Doug Ayers and Michael Coakley, Gallagher became active in the organization.

For many years, he attended conventions as a member, submitting jobs for awards and networking. During that time, he got a feel for the association and saw its value. "I feel passionately about the group and what it does," he says. "It's the melting pot of the industry. It gives people from all parts of the industry a chance to meet face to face."

Gallagher's path to the United States and C.J. Coakley was something of happenstance, coupled with hard work. Gallagher was born in Scotland of Irish parents, who took the family back to Ireland when he was little. As a construction management student in Ireland, he was required to spend a year working in the industry as part of his graduation requirements. One day he happened to pass the bulletin board at his college, where he saw a notice that C.J. Coakley was looking for students to come to Falls Church. "It sounded like a vacation to me," he says.

It was anything but. Once at the company, he got a quick indoctrination into dry wall and ceilings and off he went. During the year, he fell in love twice: once with the Washington D.C. area and the second time with the woman who is now his wife.

At the end of the year the company invited him to return once he finished his degree, but a recession interfered. So, he got a job in London. He stayed in touch and during a visit to the U.S. to see his then girlfriend, he called C.J. Coakley and was told there was a place for him.

He found himself at a major project at the National Archives. Since then he has fed his love of history and historic buildings with jobs at such iconic Washington D.C. area structures as the Pentagon, the White House, the Newseum and the Department of Justice. "Working on these buildings makes going to work easy," he says.

Gallagher and his wife, Beth, are the parents of five children, ages 10 to 22-years-old. Their oldest girl wants to be a science teacher and is graduating from the University of Virginia. Their eldest boy is a junior at Virginia Tech, where he has established himself as a "computer geek." He already has had jobs working for Facebook and Google. The next in line is studying chemical engineering at Virginia Tech. The next two are in high school and elementary school.

Beth Gallagher is a physician's assistant, working for a private practice. "She is very focused on what she does," says Gallagher.

The whole family loves to take road trips. Of course, they have visited Ireland. Spurred by his children, Gallagher has become a baseball fan who follows the Washington Nationals.

And, when he has time, he plays guitar. During college, he played in a band and when he came to the U.S., he took up with a group that played the Irish bar circuit. That all slowed down when the kids came, he says.

Now, as CISCA president, he will be even busier. He wants to work on growing the association, as well as increasing its exposure in the industry. "I also want to encourage more transparency and more openness, so that other contractors can benefit from each other's experience," he says. He also wants to "raise awareness of the organization and the function of CISCA within the architectural community as a resource for the industry." ■

Meet the 2017-2018 CISCA Board of Directors!

Jeff Hudepohl
Immediate Past President
Valley Interior Systems

Jeff is the president of Valley Interior Systems, which has locations in Cincinnati, Columbus, Dayton and Toledo, Ohio and most recently Lexington, Kentucky. He has been with the company since 1986 when it was founded and has been in the industry for 35 years. Jeff and his partners have built their company to be one of the largest Interior contractors in the Midwestern states. Jeff graduated from Eastern Kentucky University with a degree in Construction Management and is a member of a CISCA Peer Group. Jeff and his wife Beth live in Ft. Thomas, Ky. and are very involved in their community. They have two children, Chad, who also works for Valley Interior, and Natalie. In his free time, Jeff enjoys golf, boating and traveling.

Garrett Larson
Incoming President
Golden Valley Supply Co.

Garrett is active in sales and operations for Golden Valley Supply Co., in Minneapolis, MN. Golden Valley Supply Co. has five locations servicing the upper Midwest region, supplying acoustical and interior finish building materials. Garrett started his career in the ceilings industry at the age of 15, working in the warehouse and later delivering ceilings for the family business. After graduating from the University of St. Thomas, Garrett spent 8+ years in the IT industry where he owned his own IT consulting business, contracting his services to several large corporations in the Twin Cities area. In 2009, Garrett returned to the family business and has fulfilled many different roles including sales, business development, operations, strategic account sales and of course IT. Upon his return to GVS, Garrett also became actively involved in CISCA, participating in the Education Committee as well as the Emerging Leaders. He has also attended all CISCA Conventions and Leadership Conferences, since 2009. In his free time, Garrett enjoys spending time on the lake, golfing, skiing and hunting.

Dave Chaffee
Secretary-Treasurer
E&K Companies, Inc.

Dave is president and CEO of E&K Companies providing leadership for E&K's premier specialty contracting services available from its Kansas City, Omaha, Denver, Phoenix and Chicago construction offices. After graduating from Kansas State University in 1996 with a degree in construction science and management, he joined E&K as a project manager in Kansas City, was promoted to senior project manager in 1999 and eventually moved to Chicago in 2004 to establish the drywall division there. He was promoted in 2007 to president of the Chicago Unit and in 2013, Dave returned to Kansas City to assume the more organizational, global leadership position which he holds today. Dave has enjoyed his membership in CISCA and is pleased to continue service to the industry in his role as a board member. He and his wife, Margaret – along with their three daughters, Zoey, Ella and Molly and son, Geno – call Kansas City home. He enjoys spending time with his family participating in water sports and other outdoor activities.

Jason Gordon
Contractor Director
Heartland Acoustics & Interiors

Jason is president/CEO of Heartland Acoustics & Interiors, Inc. Heartland Acoustics is headquartered in Englewood, Colorado and services the entire Rocky Mountain region, with additional offices in San Diego and Austin. Jason has been around the acoustical ceiling business his entire life and worked for North County Acoustics in San Diego in the 90s. After graduating from Kansas State University in 1998 with a degree in Construction Science and Management, he started Heartland Acoustics & Interiors in the Denver area. He is a long-time member of CISCA and has been on the CISCA board since 2013. Jason and his wife Christi have two teenage children and live in Parker, Colorado. He enjoys spending time at home with his family, working on projects in his garage and camping in the mountains.

Rick Hanson
Contractor Director
Sorlie Acoustics, Inc.

Rick Hanson is the president and owner of Sorlie Acoustics, Inc., a commercial ceiling specialty contracting business, where he oversees all operations within the business, including Sorlie Boat Storage. Rick has been involved with the corporation since its inception 32 years ago, and is the prime estimator for Sorlie Acoustics. Sorlie Acoustics, Inc services Northern Minnesota and Wisconsin. He has worked in the construction business for 42 years. Within his career, he has been engaged in many large projects throughout Northern Minnesota and Wisconsin. He is currently serving his 4th term as President of Duluth Builders Exchange. Prior to that, he served one year as Vice President and two years as a board member. Rick has been a member of CISCA for three years. Rick and his wife Cyndi have been married for 38 years. They have two daughters, one married with two children and one that lives in Philadelphia. In addition to golfing and biking, Rick enjoys all that entails with living on a lake; fishing, boating, snowmobiling and cross-country skiing.

Alan K. Skinner
Contractor Director
Skinner Interior Systems, Inc.

Alan is the president of Skinner Interior Systems, Inc., which is located in Phoenix, Arizona. The company services the entire state of Arizona. Alan founded the company in March 1993. Alan and his team have built a very well respected medium size company with many long term clients and many loyal employees. Alan started his career as union apprentice carpenter in 1977, and has worked his way up to a journeyman carpenter, field superintendent, project manager and estimator. Before starting SIS, Inc. Alan worked in distribution as an outside salesman for Acoustical Material Services of California. Alan has served on past CISCA Boards of Directors. Alan has been a member of American Society of Professional Estimators for 22+ years. Alan has been very active in the local chapter and has served as president in the past. Alan and his wife Patricia live in Peoria, Arizona and are very involved in their community and family. They have five grandchildren. Alan enjoys golf, skiing, hunting, fishing, boating and traveling.

Tony Reinders
Distributor Director
Acoustical Material Services

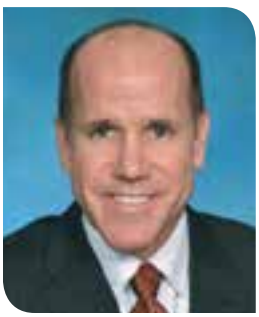
Tony was born in Salt Lake City, Utah. His parents were immigrants from the Netherlands. He served in the Military; US Army, January 1972 to April 1979 and has been in the construction industry for 38 years. From May 1979 to 1982 he was with Building Systems Inc., managing the distribution division selling Armstrong tile and Domtar demountable wall systems. From 1982 to 1984 he was with L&W (Capital Building Materials) Salt Lake City, Utah as a Salesperson and assisted in adding a ceiling line. From 1984 to April 1986 he served as district manager for Chicago Metallic Corp (MFG of Ceiling Grid Systems), Southern California and from May 1986 to present has held many positions within Acoustical Material Services (AMS)/Allied Building Products, currently serving as the vice president of interior products for the west coast. Tony likes to watch soccer, play golf and fly fishing.

Dominic West
Distributor Director
Western Interior Supply Ltd.

Dominic is the technical sales representative for Western Interior Supply based in Denver, Colorado, where he started working in 1996. Western Interior Supply also has an office in Colorado Springs and they service primarily the Front Range, specializing in acoustical products for ceilings and walls along with many other specialty finishes. Dominic was born and educated in England, UK, where he ran his own successful building company for 10 years before emigrating to the USA. He moved to Denver in 1992, initially working on DIA for a commercial interior contractor as a foreman/superintendent. Dominic lives in Lakewood, Colorado with his wife of 5 years Sally, a fellow Brit, and his two Golden Retrievers. He has two children: Ben and Harriet. When not working, Dominic enjoys skiing, fly fishing, hunting, construction projects at home and riding his ATV in the Rocky Mountains.

Kelly Johnson
Independent Representative Director
Specified Components

Kelly is president and founder of Specified Components, an independent manufacturer's rep firm based in Houston, Texas. Kelly started the company in 1990 and has been in the construction industry for over 35 years. Kelly, his wife Gloria and their children Lynn and Beau are all part of the success of Specified Components. In his free time, Kelly enjoys golfing, fishing and the outdoors.



Eric Brown
Manufacturer Director
CertainTeed Ceilings

Eric is the vice president of sales for CertainTeed Ceilings located in Malvern, PA. Eric has worked for CertainTeed for 26 years in a variety of leadership roles in sales, marketing, customer service and manufacturing. He resides in the Philadelphia area with his wife, Jill, and their two children. Eric enjoys ice hockey, golf, fishing and traveling.

Paul Corr
Manufacturer Director
Armstrong Ceiling Solutions

Paul is Vice President, commercial sales East & Latin America, of Armstrong Ceiling Solutions. The majority of his 37-year career has been in the Commercial Ceilings business, holding field sales and sales management assignments, in addition to a variety of division-level marketing, channel management and business development roles. Prior to his current role, which he assumed in 2008, he was vice president, sales & marketing for Armstrong's retail ceilings business. Paul is a proud grandfather of five (soon to be eight!), an avid golfer and a recently retired high school basketball officiator after a 27-year career. He resides in Lancaster, Pennsylvania with his wife of 38 years, Ellen.

Ken Fussner
Manufacturer Director
Rulon International

Ken Fussner was born and raised in Rocky River (Cleveland suburb) Ohio, attended Ohio University (2 years) and Cleveland State University (3 years) to earn his Bachelor's Degree in management and labor relations, with a minor in psychology. He worked for Sound Com Corporation from 1976-2002, a family owned Low Voltage Systems Integration Contractor, worked his way from the ground-up to President/CEO during that time, until he sold his interest in the company in 2002. Ken then relocated to St. Augustine Florida in July of 2007 where he discovered Rulon International, a local family owned Acoustical Wood Ceiling and Wall Manufacturer who needed his sales and management experience to help grow the business. Ken is married to Jackie Gerard Fussner, his high school sweetheart, and has three children: Matthew (36), William (32), and Julie (27).

Ron Rice
Manufacturer Director
Hunter Douglas Architectural Products

Ron is general manager of Hunter Douglas Architectural Products and vice president of sales and marketing at Hunter Douglas Ceilings in Atlanta, Georgia. Ron has been involved in the ceilings and Division 9 business since 1985 when he started as a sales representative for DONN Corporation, then transitioned into sales management with USG Interiors in Atlanta and Dallas. Ron concluded his USG career as General Manager of the L&W operations in the southeast, before moving into the Division 5 world with a light gauge steel fabricator. Ron then became a sales manager for Steelcase's Division 10 visual display operations. But, the ceilings habit was always with him and in 2005 he was able to join Hunter Douglas and become its general manager for the metal ceilings unit. Ron played football and graduated from Georgia Tech with a B.S. in management science and earned his M.S. in international studies from University of Texas-Dallas. Ron lives in Duluth, Georgia with his wife, Kristi, and has two daughters, Maggie and Erin. Besides travel with Kristi and daughters Maggie and Erin, Ron's hobbies are Georgia Tech football and researching roles of piracy in the late 17th century and the historical value of the Gulf of Mexico.

Doug Ayers
Contractor Advisor
C.J. Coakley Co., Inc.

Doug Ayers earned a BA from George Mason University, going on to work for Turner Construction and then C.J. Coakley Co., Inc. from 1970 to present day. Doug has filled many roles while working at C.J. Coakley Co., Inc., including estimator, project manager, chief estimator, vice president, president and currently COO. His CISCA involvement spans many years as well, serving as eastern regional vice president, president elect, president and earning the DeGelleke Award in 1999. Doug has been married to his wife Elaine since 1972, and they have two children and four grandchildren. Doug's interests include golf, tennis, riding bikes, reading, listening to music, travelling, cruising and having fun with his grandkids.

Michael Coakley
Contractor Advisor
C.J. Coakley Co., Inc

Michael is co-president of C.J. Coakley Co., Inc. C.J. Coakley is a large subcontractor servicing the Washington D.C. Metropolitan area. Michael grew up in this family business, but began his career in 1992. Michael is a graduate of Clemson University with a Bachelor of Science in management. During his career, he has worked on notable projects including the National Archives, The interstate Commerce Commission's headquarters, the Phoenix Project (rebuilding of Pentagon after 9/11) and the United States Patent and Trademark Headquarters. Michael and his brother Liam assumed the role of co-presidents in 2013. They help guide their company to be one of the finest firms in Washington D.C. Michael served on the Board of directors of CISCA from 2000-2008 and served as CISCA president in 2006. Michael's passion for CISCA was rewarded when he received the De Gelleke award in 2012. Michael is happy to advise the board during the next year. Michael is married to his wife Beth, and has three children: Neil (16), Lauren (14) and Evelyn (12). Michael enjoys martial arts and watching his kids become active members of the community. ■

PLENUM BARRIERS:

Optimizing Acoustic Performance versus Cost

BY GARY MADARAS, PhD, ASSOC. AIA, ACOUSTIC SPECIALIST, ROCKFON

People typically expect sound isolation and speech privacy when they are inside enclosed rooms. For various reasons, it is not always achieved. Adequate sound isolation typically requires that demising walls extend full height to the underside of the floor or roof above and are sealed airtight. This is required by acoustic standards and guidelines to achieve sound transmission class (STC) or noise isolation class (NIC) of 40, 45 or 50. In some cases, full height walls are not used in an effort to decrease the initial construction cost of the building. Instead, the walls stop at the height of a suspended, modular, acoustic ceiling. In other cases, full height walls are not used because the owner wants the flexibility to relocate walls as space requirements change without disrupting the ceiling suspension system, and the building's lighting, HVAC and fire suppression systems.

If the walls only extend to the height of a modular, suspended, acoustic ceiling, the sound easily transmits through the ceiling system and through all its penetrations for lights and air distribution devices via the open plenum above the ceiling. Recent testing[1] found that just four recessed lights, one return grille and one supply diffuser

decreased the sound blocking capacity of the ceiling system from 37 dB to 27 dB, far lower than the 40, 45 or 50 dB required by acoustic standards. Architects, contractors and owners are left with the decision to either stop the demising walls at the height of the ceiling, which is more affordable and adaptable, or to extend the walls full height, which provides sound isolation, speech privacy and ultimately high productivity.

There is a third option that provides both high sound blocking capacity and easy relocation of walls at a lower cost than full height walls. That option is using lightweight

Figure 2: The intersection of a single-layer plenum barrier, ceiling system and wall. The ceiling suspension system is continuous over the demising wall. The plenum barrier abuts the top track of the demising wall. The ceiling panels are cut and lock in the bottom of the plenum barrier laterally (do not run the ceiling panel under the plenum barrier).

Figure 3: The intersection of a double-layer plenum barrier, ceiling system and wall. Space the plenum barrier layers apart at least 1-5/8" using a metal channel on the underside of the deck above.

plenum barriers oriented vertically and located inside the plenum directly over the demising walls. When the performance of the plenum barrier is combined with the performance of the suspended acoustic ceiling, they together equal the performance of the demising wall below the ceiling.

Plenum barriers can be made of various materials, including stone wool insulation with a foil facing, standard gypsum board or plenum-rated mass loaded vinyl. Other composite products such as insulation laminated or sewn to mass loaded vinyl also exist. The advantages of using standard, 5/8-inch thick gypsum board as a plenum barrier is the low material cost and

Figure 1: Design options for interior walls and suspended ceilings. (Left) Full height walls offer the best sound isolation, but at a cost premium. (Center) Plenum barriers maintain performance at a reduced cost. (Right) Stopping demising walls at the ceiling and relying on the ceiling to block noise should be avoided.

availability on most project sites. The downside to using gypsum board is that it does not compress and can be problematic where there is live-load floor deflection or building expansion and seismic joints. Gypsum board is difficult to cut and less forgiving. Slight errors result in significant gaps in the sound barrier. Ultimately, gypsum board can be more time-consuming and costly to install.

Mass loaded vinyl plenum barriers (1 to 2 pounds per square foot weight) have a high material cost, approximately two to four times more expensive than other plenum barrier material options. It also does not provide as high performance compared to the lower cost materials. Mass loaded vinyl is limp, not being able to support its own weight. Consequentially, it requires more framing and taping to make the various pieces tie together into a monolithic sound barrier.

Stone wool insulation plenum barriers (8 pounds per cubic foot density, semi-rigid boards, 1.5 to 2 inches thick) are only slightly more expensive than gypsum board, but are the fastest to install. This drives down the labor and total cost. The stone wool insulation should have a reinforced foil facing on one side; it significantly improves the performance. Stone wool plenum barriers are easy to cut and are very forgiving. Cut the length and width slightly large and compress the board in both directions as it is put into place over the wall. Cut holes for penetrating ducts, pipes and conduits slightly small. The stone wool will compress and expand filling gaps. Taping or caulking the seams and penetrations is not generally necessary, but if a large gap is found, filling it with caulk is one option instead of cutting a new panel.

A single-layer stone wool plenum barrier combined with a standard 5/8-inch-thick stone wool ceiling system provides a STC 40 rating. These should be used over demising walls with standard doors or a lot of glass. Typically, the door or glass will be the weakest link and anything more for a plenum barrier will likely be wasted effort. For solid walls without doors or glass, a double-layer stone wool plenum barrier should be used. Mount a standard 1-5/8-inch-wide metal track to the deck above and screw one layer of plenum barrier material to each leg of the track, leaving a 1-5/8-inch-wide airspace in between. The bottom of the plenum barrier is then just friction fitted against the top track of the demising wall. This will provide over STC 50 when combined with a standard stone wool ceiling.

Using lightweight plenum barriers as a third design option is not new. They are an integral part of building standards and guidelines in other countries. One example is Canada's Fitout 2.0 for federal buildings. Plenum barriers are only now gaining popularity in the U.S., and designers are relieved to know there is an option for high performance and lower cost while still providing adaptability as user needs change. ■

***Gary Madaras**, PhD, Assoc. AIA, is an acoustics specialist at Rockfon. He helps designers and specifiers select the appropriate acoustical ceiling products and apply them effectively. He is a member of the Acoustical Society of America (ASA), Canadian Acoustical Association (CAA), and Institute of Noise Control Engineering (INCE). He authors technical articles and speaks publicly on the topic of optimizing acoustic experiences. Madaras can be reached at gary.madaras@rockfon.com. Find out more by visiting www.OptimizedAcoustics.com.*

SOURCE

1. Madaras, G. and Heuer, A. Effects of noise flanking paths on ceiling attenuation class (CAC) ratings of ceiling systems and inter-room speech privacy. Proceedings of InterNoise 2015, San Francisco, CA, 9-12 August 2015.

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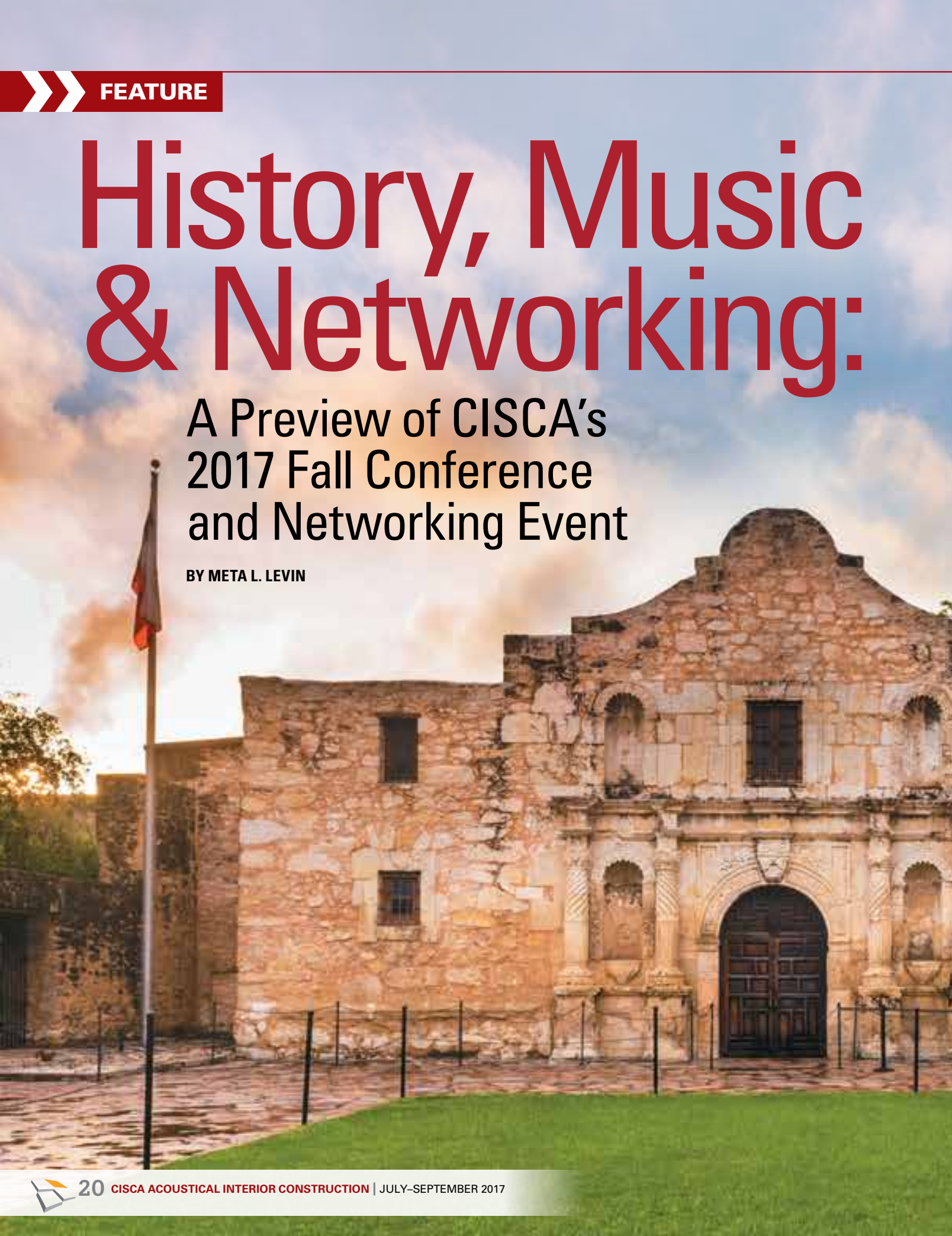
FEATURE

History, Music & Networking:

A Preview of CISCA's 2017 Fall Conference and Networking Event

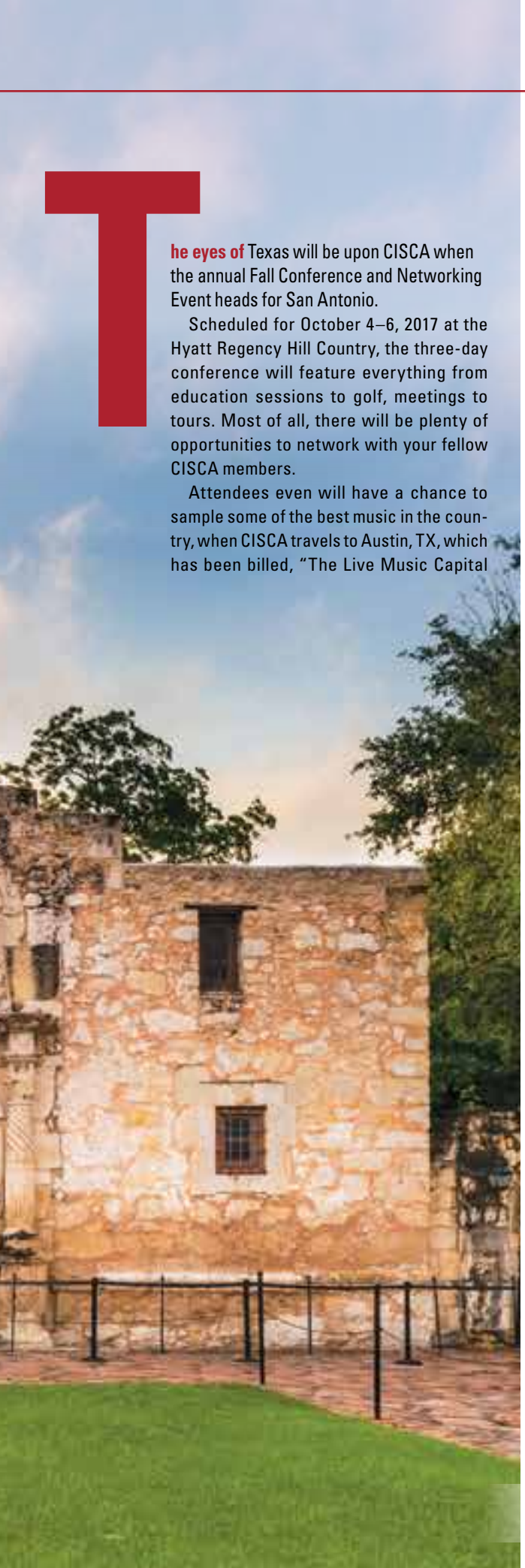
BY META L. LEVIN

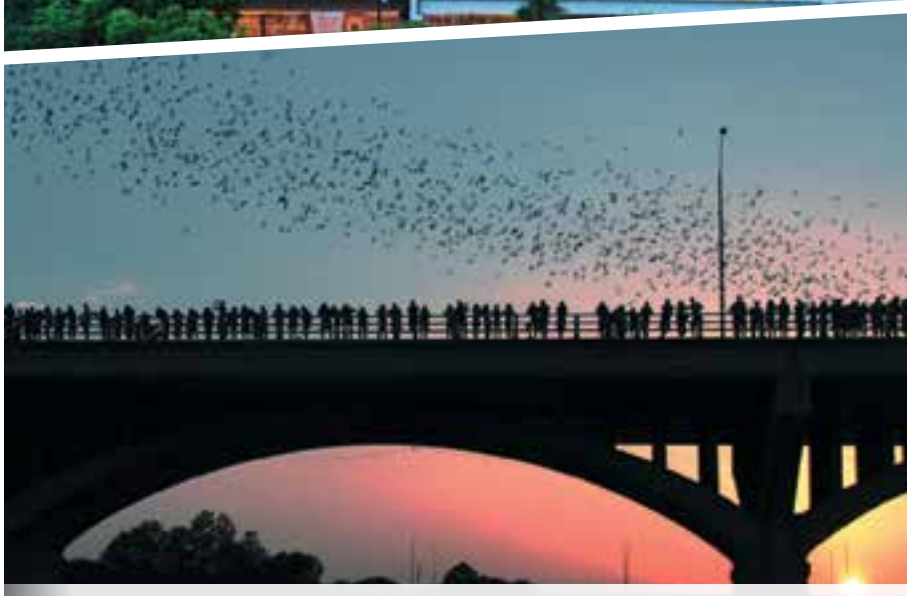


The eyes of Texas will be upon CISCA when the annual Fall Conference and Networking Event heads for San Antonio.

Scheduled for October 4–6, 2017 at the Hyatt Regency Hill Country, the three-day conference will feature everything from education sessions to golf, meetings to tours. Most of all, there will be plenty of opportunities to network with your fellow CISCA members.

Attendees even will have a chance to sample some of the best music in the country, when CISCA travels to Austin, TX, which has been billed, "The Live Music Capital





of the World." The city boasts shopping galore and a plethora of restaurants, many of which offer live music. CISCA will provide the transportation and attendees will provide the memories. What happens in Austin, stays in Austin.

The conference will kick off at 5:30 p.m., Wednesday, Oct. 4, with a welcome reception, dinner and networking event. Tailgate games, designed to introduce attendees to each other, and after dinner S'Mores will provide fun and sweets for the evening.

On the more serious side, Mike Eshoo, a certified portfolio manager and senior vice president for wealth management with Merrill Lynch, will discuss the company's thoughts on the state of the economy at 9:10 a.m., Thursday, October 5. His will be the first of a number of educational presentations, none of which will run longer than 60 minutes.

Eshoo's presentation will cover everything from interest rates and inflation to tax reform, regulations, Europe, China and financial markets. He will walk attendees through the main points of the economy, leaving plenty of time for questions and answers.

Later Eshoo will speak to the emerging leaders about the basics of investing. "Repaying debt, such as student loans, saving for a nice wedding and saving for the first home purchase often interferes with investing for retirement," says Eshoo. "If you start at a young age, things will work out."

Eshoo has a strong connection to the construction industry. His father was an electrician, and Eshoo paid for his college education at Marquette University by working weekends for his father's company. "It's easy to be motivated to stay in school when you spend weekends in hot attics," he says. He gravitated toward finance because of a natural curiosity about how the world works.

Following his Bachelor's degree, he became one of an estimated 1,000 people in the world to earn a Certified Portfolio Manager designation through the Columbia School of Engineering. And, in 1999 he joined Merrill Lynch.

He loves what he does, is a passionate Chicago Blackhawks fan, cheers for the Chicago Cubs and shares with his partner a zeal for causes, particularly raising money to combat breast cancer, in large part because of a family member who had it. Eshoo enjoys educating young people about finances.

While the Emerging Leaders are learning the basics of investing, other attendees will have an opportunity to wrestle with "Find. Keep. Repeat. Learn How to Hire, Engage and Retain A Players," by Will Pemble of Goal Boss. The presentation will cover ways for employers to choose the right people, train and develop them and then retain the best of the bunch.

Participants will have access to Goal Boss learning resources, including a six-month subscription to the Goal Boss App, which can be used to continue learning and using the company's tools, strategies and techniques for employee recruiting, hiring and training.

The afternoon will be given over to entertainment and networking. Attendees can play golf at the Hill Country Golf Club, which is walking distance from the hotel. That will provide all the networking opportunities offered by a game that involves chasing a little white ball around the diverse terrain and lush hillsides of the 200-acre course, which was voted Best Golf Course in San Antonio by readers of San Antonio Magazine. There will be contests on some of the holes, so bring your game and win a prize.

Or they can take a guided bus tour of historic San Antonio to learn about the town, which is the seventh most populated city in the United States. A VIP tour of the famed Alamo, including a talk by a historian, a tour of the battlefield, the barracks and the shrine will highlight the trip.

It also includes a one-and-a-half-hour river barge tour to explore the banks of the Riverwalk. At El Mercado, the largest Mexican market outside of Mexico, the group will learn about San Antonio's historic Hispanic heritage and culture, as well as examine the Mexican food, spices, jewelry, clothing and crafts.

The bus tour will end at Rio Rio Cantina, a well-known Tex-Mex restaurant located on San Antonio's Riverwalk, where conference attendees will have a reception, dinner and drinks.

Friday morning will be given over to educational sessions about the technical aspects of the industry, followed by CISCA's annual business meeting.

Around 3 p.m., attendees will board a bus to Austin, TX, the state capital, for an evening of food, fun and music. If that doesn't sound like enough, just before sunset head for Austin's Congress Bridge to watch the bridge's 1.5 million bats take flight at dusk.

Austin also boasts underground caves – nearly 3,000 of them – seven of which are open to the public. Places to eat range from food trucks to pit barbecue spots, trendy eateries and Mexican restaurants to breweries and wineries. You also can check out the State Capitol, a Renaissance revival building that dates to 1888.

Austin's music venues range from dive-bar rock bands, smooth jazz lounges, honky-tonk dance halls, classical and outdoor stages.

Oh, yes, while you're there, seek out your fellow CISCA members for plenty of networking opportunities. ■

Matthew Alcon Receives Scholarship

BY META L. LEVIN

What happens in Las Vegas, doesn't necessarily stay there. In this case, Matthew Alcon, a Colorado State University (CSU) Construction Management student, left the annual CISCA Conference with a $5,000 scholarship check. "This gives me some good opportunities," says Alcon, who has been around the construction industry most of his life.

Right out of high school, Alcon went to work hanging drywall for Schommer Construction, LLC, in Colorado Springs, CO, where his mother works. "I was in the field doing general labor and that made me think about the industry," he says. "Luckily, CSU had one of the best construction management programs." So, there he went.

For the next two summers, he returned to Schommer Construction, working his way from laborer to a field journeyman, only leaving last summer for a project engineer internship in Denver.

At the CISCA conference, Alcon gained a new appreciation for those who work in the industry. "I had never been exposed to the trade in that way before," he says.

He will graduate in December 2017. In the meantime, he is spending the summer interning as a project engineer for a general contractor in the San Francisco Bay area. The scholarship money, he says, is helping with living expenses while there. The rest will be used toward school costs in the fall. "It will help me to focus on school and take off some of the financial burden."

Jointly sponsored by CISCA and Gordon, Inc., the scholarship honors and is named for the late Gordon H.F. "Corky" Falbaum, founder of Gordon, Inc. and 1995 CISCA DeGelleke Award Winner. "We wanted to make this a CISCA/Gordon, Inc. sponsored scholarship, with Gordon providing the funding, as a way to promote CISCA, as well as to encourage the next generation to continue their pursuit of a college degree in construction management, architecture, interior design or another related field," says Tommy Wynn, Gordon president and COO.

"We are more than thrilled with the high quality of the young man who received the scholarship this year," says Wynn. "He is a highly qualified, focused, bright young man, who is intent on following in the footsteps of those he has worked with in summer jobs for a very well-respected contractor."

During his time at CSU, Alcon, who has a 3.24 GPA, has served as president of

the campus chapter of the Mechanical Contractors Association of America (MCAA), an organization of mechanical contractors, providing industry training and student learning opportunities. In addition, he earned a spot on the mechanical competition team, which landed in the top four of 32 universities during a mock bid competition, as well as a place in the national competition.

He also was chosen as one of 12 students to travel to Costa Rica to learn about sustainability, working with families and students in the area. "I gained a new appreciation of how a single individual can have a lasting presence on the lives of others in a positive way," he says. ■

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REGISTRATIONS JULY 1–AUG. 31, 2017

Member – Single	$699
Member Spouse/Companion	$260
Non-Member – Single *(Includes one year CISCA membership)*	$1,100
Non-Member Spouse/Companion *(Includes one year CISCA membership)*	$260

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Member – Single	$795
Member Spouse/Companion	$260
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Non-Member Spouse/Companion *(Includes one year CISCA membership)*	$260

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Elite Acoustics & Interiors'

ALASKA STATE LIBRARY, ARCHIVES AND MUSEUM WINS CISCA'S PEOPLE'S CHOICE AWARD

BY META L. LEVIN

Other CISCA member involved in the project:
9Wood
Architect/Designer:
Hacker Architects
ECI/Hyer Architecture

The Alaska State Library, Archives and Museum (SLAM) was a huge project, certainly the biggest that Jason Jensen, owner of Elite Acoustics & Interiors LLC in Wasilla, AK, ever had bid. Jensen, however, had no doubts about his ability to do it. "We have the manpower and the smarts," he says.

That attitude and the work that Jensen's crews did earned them CISCA's prestigious 2017 People's Choice Award. "Everything worked out," he says.

"In size and scope this project was large for both the contractor and 9Wood," says Rebecca Hart, 9Wood's project manager for the job. Despite that, she deems it "pretty straight forward. Most of the work fell to the contractor."

That, says Jensen, was in part because of the tight schedule. "We could not get 9Wood the field measurements in time for them to cut the panels," he says. "The building was under construction at the same time that 9Wood was manufacturing them." This was crucial, because the building had to be enclosed and the HVAC working before the panels arrived in order to meet temperature and humidity requirements.

Jensen and his team started work after the other trades completed such things as the framing and the dry wall. It was a tight schedule: the lobby area took two months to install and the second-floor library took about two-and-a-half months because of its intricate design. "It took a little longer than I expected," he says. During that time Jensen and the 9Wood team were in constant contact.

The work involved a 21,250 square foot ceiling, comprised of 3,282 wood grille panels and 98 lineal feet of square wood trim, all custom stained to Western Hemlock. 9Wood supplied standard size and shape acoustic wood panels, which Jensen and his crew measured and cut into diagonal shapes in the field.

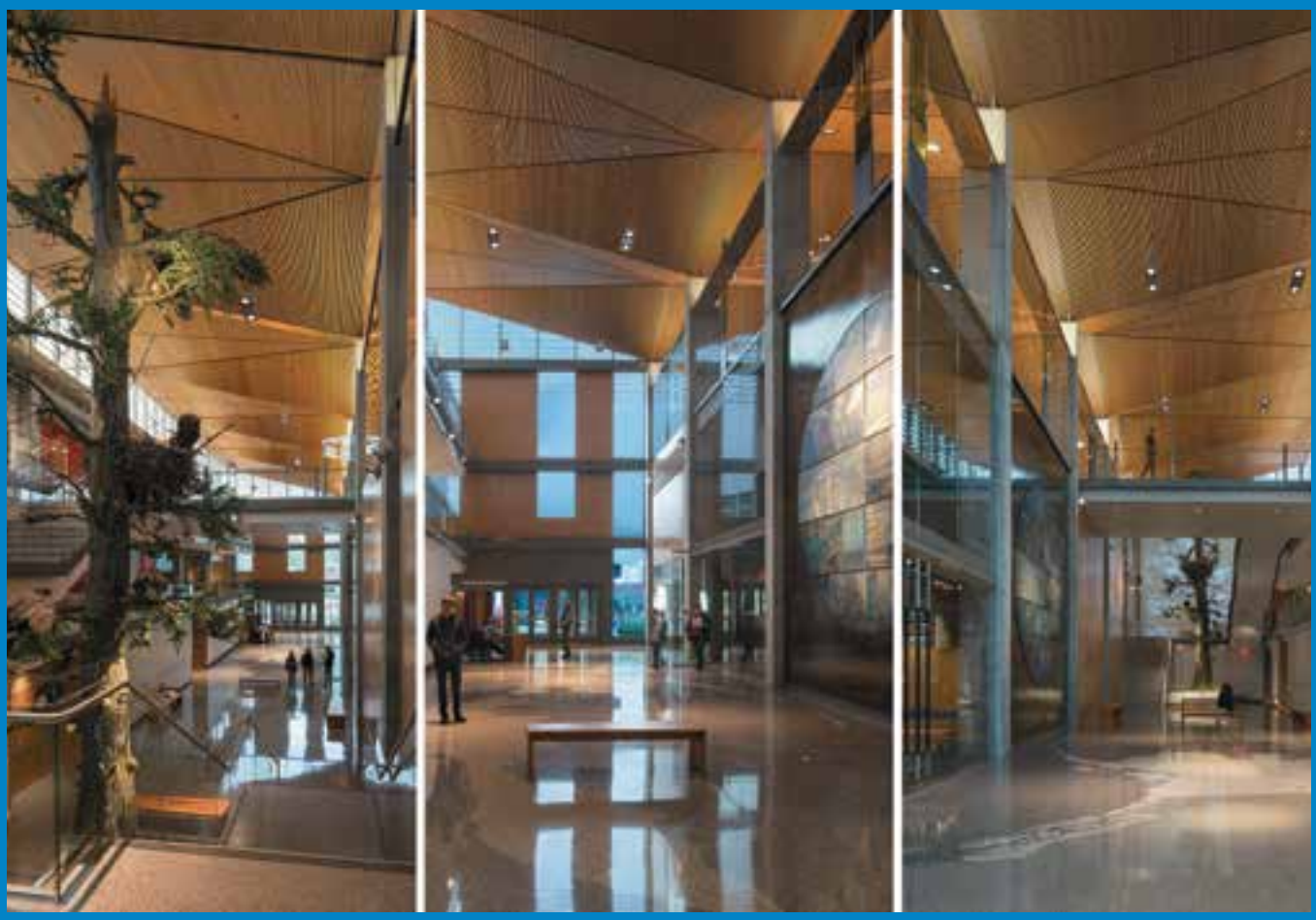
Jensen had to establish his own true grid lines, despite the fact that he was suspending the ceiling from an existing drywall ceiling. The wood ceiling, however, had multiple angles, which meant that it was all the more difficult to make everything line up properly.

They described the ceiling as "attached to a Z-furring channel, suspended from a fire-rated drywall assembly." The ceiling assembly was raked along the length of the building and was sloping and angled, designed to be suggestive of the rugged terrain. Near the building's perimeter windows, the ceiling flattens out so that visitors see views of the distant mountain range.

To accomplish this, the architect, Hacker Architects, supplied a CAD file on the theoretical geometry of the building, which 9Wood put into its own shop drawings, flattening them out in order to determine the number of panels needed. "We spelled out the panels for each area and how they should be cut," says Hart.

A 1-inch sound deadening insulation backing strip worked to hold the panels together, says Jensen. He described the ceiling as made of triangular shapes that angled up and down. To achieve this look, Jensen's crews cut panels 1 1/2-inches long by 3/4-inch on each end. "We had to cut every single panel twice, once on each end," says Jensen. They nailed a piece of wood onto the panels along the pie shaped edges.

The intersections of ceiling panels and structural beams provided an added challenge. To overcome it, Jensen and his team



field cut the panels to fit into the "I" of each beam. Every triangular shaped panel was joined on a different pitch plane, less than two inches from the next.

Some of the field cutting occurred after the panels were in place. Jensen described ending the day covered in sawdust from the cutting. The team used one inch on center particle board, painted black, allowing everything to phase together.

The ceiling was about 45 feet off the ground over the lobby area, so the general contractor constructed a scaffolding with a dance floor spanning the entire lobby. To work on the library area, which was 16 feet high, Jensen and his crew provided their own 12-foot by 20-foot rolling scaffolding, saving time and eliminating the need for raising and lowering scissor lifts.

So as to install the specially designed can lights for each rake, Jensen and his team created black backing pieces that attached to each panel. They custom field cut each round hole.

The work involved a 21,250 square foot ceiling, comprised of 3,282 wood grille panels and 98 lineal feet of square wood trim, all custom stained to Western Hemlock.

As in any situation in which wood panels are involved, climate was a challenge. "9Wood was adamant about monitoring for temperature and humidity," says Jensen. The manufacturer had supplied him with a climatization booklet, describing the requirements.

In September, the 9Wood panels left on the last barge headed for Juneau, AK before the service shut down for the winter. In Springfield, OR, where the panels were manufactured, the wood was packed in crates, which were loaded into shipping containers. Those were transported by truck to the Port of Seattle, where they were placed on the barge. The barge makes regular trips up and down the coast to Alaska.

This was familiar territory for Hart and 9Woods, because they had been involved in other projects in Alaska.

All involved were pleased with the results from this unique and challenging project. "This is a wonderful job to have in our portfolio," says 9Woods' Hart. ■

FEATURE

UP CLOSE and PERSONAL: CISCA Tours Hilti's Facilities

Hilti welcomed CISCA's executive committee to their facilities in January 2017. Hilti is a CISCA member and sponsor.

Founded in 1941, Hilti is a world-leading manufacturer and supplier of innovative products, services and software. Today Hilti is in over 120 counties with more than 25,000 employees worldwide. CISCA had the opportunity to visit the Hilti North America headquarters and the product development, testing and service center.

CISCA began its visit with a night at the American Airlines Center to see a Dallas Stars game. It was an exciting game, and in the end the Stars won!

The next day, CISCA took a tour of the North America headquarters in Plano, Texas. It is a very modern building, and Hilti built out their three floors to focus on what makes the company unique in the industry – their people and their products. From a people perspective, an open office environment allows for collaboration among Hilti team members. And, the space is customized by using products in a unique way, like a dramatic screen at one of the staircases made of Hilti drill bits.

CISCA then visited the Hilti Western Hemisphere Product Development, Testing and Tool Service Center in Irving, Texas where the association had a behind-the-scenes look at product testing of anchors, direct fastening and firestop. CISCA was also able to participate in hands-on demonstrations of some of the latest Hilti innovations.

The service center is co-located with the product development and testing facility, and CISCA saw Hilti's state-of-the art service center where tool repairs and maintenance, laser calibration and battery checks are performed.

Hilti manufacturers and designs leading-edge technology, software and services for the construction industry, including powder-and gas-actuated fastening, drilling and demotion, diamond coring and cutting, measuring, firestop, screw fastening, adhesive and mechanical anchoring and strut and hanger systems.

We thank Hilti for their hospitality and support of CISCA. ■

8 TIPS for Dealing with Project Conflict

BY SUE DYER

A project team was separated only by the locked doors to the two trailers that sat side-by-side on their wastewater treatment project site. Every day for six months, the owner's team and the contractor's team filled their days with writing letters. Back and forth, they literally emailed over 1,200 letters. The purpose of each letter was clear – *to prove the other side was to blame*.

This type of scenario plays out far too often on construction projects of all sizes and types. Even good people with outstanding records can get "stuck" in conflict. Imagine if you will, you're at an awards ceremony and a contractor was praising an owner's project manager as the best person he had ever worked with! The very next day you get a call from a different contractor telling you about an owner's representative on his new project and how he was the worst person

he had ever worked with in his career. Then, you find out it was the same person!

Conflict is not only frustrating, demanding, and unfulfilling – it is downright expensive. A study done at Michigan State University in 2012 found that the *average* job site conflict took 161 hours (~20 days) to manage. The wages of the workers involved cost an *average* of $10,948.00! This is only for the labor costs due to the lost time and does not include the impacts that the conflict had on the cost of the project. This study was the first of its kind to assign a monetary value to the conflicts that occurred on actual jobsites. So what can you do to help deal effectively with jobsite conflicts? Here are eight tips to help:

TIP 1 DON'T BECOME ENGAGED

You can help the resolution process by not becoming engaged in the battle. How?

Try to remain as if you were an interested onlooker. Don't let your co-worker's words or behavior make you favor one side over the other.

Here's why: when people are upset about something, they can become engaged in the battle. At that point, they lose perspective. They stop trying to find a resolution and begin to focus on finding a way to win. If you become engaged, you become part of the problem – not part of the solution.

TIP 2 SET GROUND RULES FOR TALKING

You've probably seen people engaged in a conflict. Everyone tends to talk at once. Each person is shooting verbal arrows at the other and very little listening happens. So, set some ground rules for talking – and listening. The best rule is that one person talks at a time while the other person must listen. Reassure everyone that they will have a turn to talk and ask questions.

TIP 3 REMEMBER, IT'S ALWAYS PERSONAL

People are seldom upset about what they say they are. It's usually all about hurt feelings or bruised egos. You can help people resolve their conflict by recognizing this and getting them to express their underlying feelings. A simple apology can work wonders.

TIP 4 AGREE ON THE PROBLEM

It sounds simple, but it's powerful to identify the actual problem that is causing the friction. During a dispute, people tend to talk *at* each other. They don't really talk to understand. You will be able to agree on the problem when you've really talked *and* listened to how each side views the issues. When you can agree on the problem and write it down, it is very likely that you will also be able to find a resolution.

TIP 5 BREAK IT INTO BITE-SIZED PIECES

How do you eat an elephant? One bite at a time! The same is true for conflicts. When you feel overwhelmed by the problem (or the emotion involved), try breaking the problem into bite-sized pieces. It's okay to start with the part of the conflict that is easiest to resolve. Get that part resolved and you will have a history of being able to resolve conflicts together. Then take the next bite…and so on.

TIP 6 BRAINSTORM IDEAS FOR RESOLUTION

It's said that two heads are better than one. This can really be the case when you work to find a way to resolve a conflict or dispute. Have everyone brainstorm their best ideas for resolving the problem. Make sure everyone has given you at least a couple of ideas.

TIP 7 SELECT THE BEST SOLUTION

After brainstorming, you will begin to see patterns (just look for the ideas that get repeated). Discuss these ideas and explore their feasibility. Maybe there is a way to execute one person's idea and still give the other side what it needs. The main thing is to stay focused on resolution – not winning.

TIP 8 AGREE ON A "FAIR" DEGREE OF RESPONSIBILITY

"This is really gonna cost you…" or "I have really been damaged!"

Don't begin your argument with costs or the threat of a penalty. Such statements usually exacerbate the conflict and the dispute grows more heated. Wait to discuss money or penalties until way after you have agreed on the problem, brainstormed potential solutions, and can see that you are coming to an agreement. Only then should you begin to discuss what would be a fair distribution of responsibility (who will pay what and when).

Try to integrate these eight tips into your personal approach when managing on-site job disputes. With practice, you will be considered a trusted leader with the wisdom to help others find the path to peace. ■

***Sue Dyer**, President of OrgMetrics LLC a professional partnering facilitation firm, has created a structured Collaborative Partnering™ model that is producing extraordinary project results (10-30 percent cost savings). Sue just launched two new collaboration tools to assist project teams, **Partnering FIT™** virtual training program and the **Construction Scorecard™** program that includes your **Project Momentum Score™**. These new tools allow you to develop an integrated culture of collaboration on your projects. For more information on Sue Dyer, please visit www.OrgMet.com.*

A study done at Michigan State University in 2012 found that the *average* job site conflict took 161 hours (~20 days) to manage.

FEATURE

Seeds of the Future: Recap of the 2017 CISCA Emerging LEADERS CONFERENCE

BY META L. LEVIN

Geoff Johnson, a pre-construction manager at Heartland Acoustics & Interiors, immediately put what he learned at the CISCA Emerging Leaders Conference to good use.

Eager to pass on the lessons, he took his staff through one of the exercises in which he had participated at the conference. It involved leading by having the courage to speak out in meetings with those who were your superiors when you have pertinent information.

The next day, that very situation presented itself in Johnson's real world. He recognized it and knew what to do. "Letting others take control and not asking questions, doesn't always serve your and your company's best interests," Johnson says. In his case, he headed off a situation that could have been detrimental to a customer.

The story warmed Brian Hinson's heart. "We were trying to talk about everyday leadership and part of that was teaching them that they can be a leader at any level," he says. Hinson is a regional human resources leader for Owens-Corning, which hosted the group. He talked to the group about leadership.

During the event, 11 CISCA Emerging Leaders went through a program designed to give them leadership skills, as well as to promote teamwork and networking. The networking was the highlight for many of them.

"It exceeded my expectations," says Melanie Drennen of Radius Track Corporation. "It was great to be around like-minded people, all of whom had different perspectives." Within weeks of the conference, Drennen had reached out to some of those she met.

Randall Larson, general manager of Heartland Acoustics & Interiors' Texas branch, handed the name of a contact he made at the conference to his estimator, who immediately called him. "It's a positive benefit," he says.

Hinson spent the better part of a day talking and leading interactive activities designed to give the Emerging Leaders leadership skills. "I wanted to make sure that they came away with things they could take with them and apply to day-to-day leadership," says Hinton, a 22-year veteran of the human resources area.

Before coming to Owens-Corning, he was senior vice president of human resources for a network of entrepreneurial start-ups and before that he was human resources director for Brady Corporation, Brady North America and Global Research & Development in Milwaukee. Later he was promoted to director of human resources for Brady's Americas region. Prior to his stint at Brady, he spent 16 years at Ford Motor Company.

All of this has given him an opportunity to observe those in leadership positions, providing insight into the positive and negative aspects of different leadership styles. He also has seen the importance of teamwork and networking. "There is a lot of knowledge out there, if people are willing to come together, they can grow," he says.

And come together, they did. In addition to the leadership exercises, Emerging Leaders did teamwork building at the NASCAR Hall of Fame in Charlotte, NC, and were encouraged to network. At the NASCAR facility, team members united to simulate the teamwork necessary for a pit crew in a real NASCAR race, as well as working together to successfully complete a scavenger hunt in the museum.

"Letting others take control and not asking questions, doesn't always serve your and your company's best interests."

"When you invite more people in to collaborate, you find that the whole group is better off," says William Cauley, an account manager for Interior Supply in Dayton, OH. He was particularly interested in how his fellow attendees looked at the issues and concerns of the industry, as well as how they approached the challenges the group was given. The exercises, as well as Hinson's presentation, gave him "good information to take back."

The networking presented many future opportunities for the attendees. "I met people from around the country, many who I hope to see again," says Eric Haskell, regional sales manager for Mau, Inc.

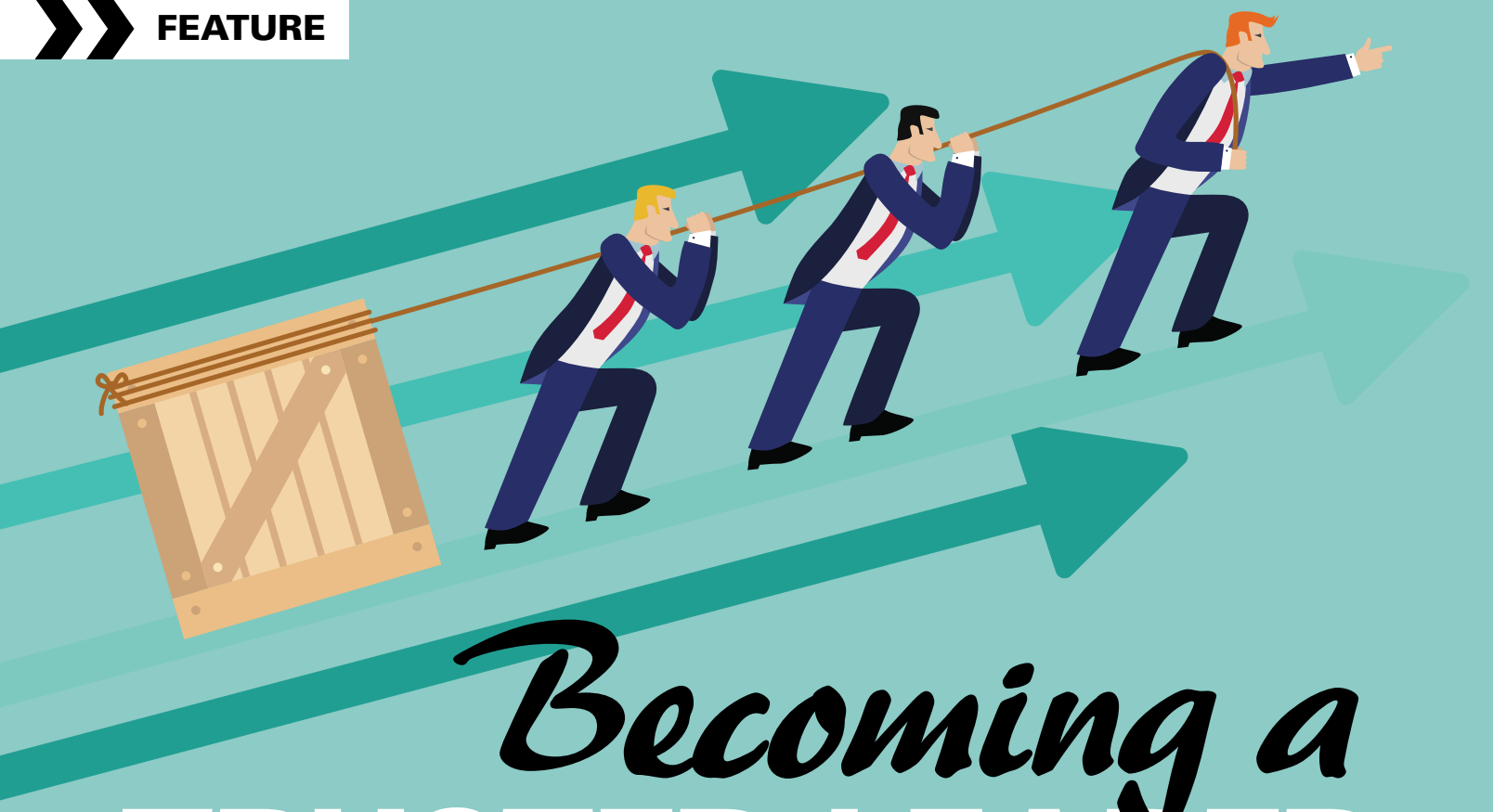
For Jason Lanier, an account manager and outside sales representative for Interior Supply, the opportunity to observe different styles of leadership and learn the different ways in which people can be leaders were among the important take-aways from the conference. "It showed me what I needed to work on," he says. "There are so many ways to be a leader. The best is to bring out the positive in others."

The tools of teamwork were among the highlights of the conference for Jason Seley, an outside sales representative for Rew Materials. "I was interested in how others looked at situations," he says. Because he had been out of the office immediately following the conference, he hadn't had an opportunity to put what he learned to work, but he was anxious to sit down and go over the high points with his boss.

Like many, he hopes to become more active in CISCA. "That is my goal," he says.

That was the case with a number of the attendees: they planned to or already had talked with their bosses, as well co-workers, about what they had learned and were encouraged to become active in CISCA. They also were excited about the opportunity to attend another such event.

"If there is anyone out there who is on the fence about attending [an Emerging Leaders conference], give it a whirl," says Seley. "You will take something back that you can use." ■



Becoming a TRUSTED LEADER

BY SUE DYER

WHAT DEFINES A LEADER?

If I were to ask you what makes a person a leader, you are likely to say that it is the person with the top position, or the person with the right title, or that they have authority or expertise; maybe that they have the right track record. A leader is the person in charge!

These are the things that we usually think of when we think of leaders. Here's a new perspective: there is NO LEADER without FOLLOWERS, and following is completely voluntary!

You can't manage your team to success. It is only through leadership that your team will follow you, with a strong sense of purpose and commitment, and accomplish, together, what you set out to do. Why do people volunteer to follow? Because they TRUST the leader! When people follow, they make themselves vulnerable to the leader. In order to feel comfortable with this vulnerability, they need to feel confident in, respect for and admiration of the leader. This is YOUR responsibility as the leader – to develop this type of relationship with your followers.

It is important to note that leadership is not limited to those who have authentic power. Leadership can be established at all levels of the team. Leadership is available to anyone in your organization and should be encouraged.

CONTINUUM OF LEADERSHIP

There is a Continuum of Leadership. At one end of the spectrum is the trusted leader who develops high trust relationships and builds a high trust atmosphere. At the other end there is the dictator, who uses fear to drive people. Let's look at what happens within the team under these different leadership styles.

THE TRUSTED LEADER

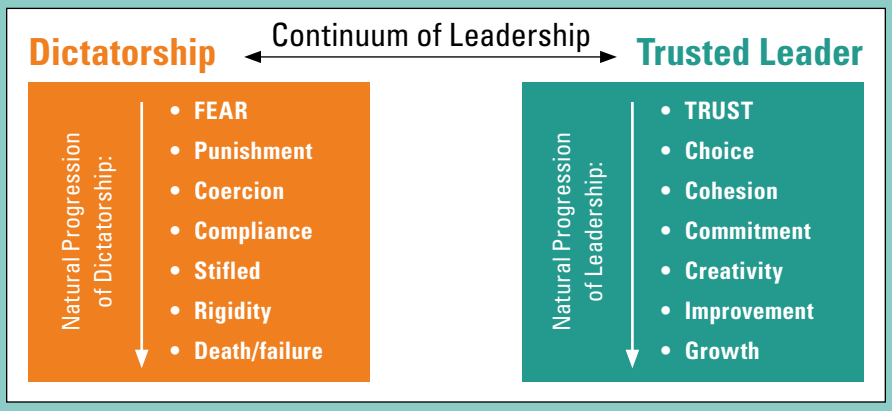
With a trusted leader, people are following because they choose to do so. They feel they have a choice.

When everyone on the team is there because they chose to do so, cohesion begins to develop between the team members. This leads to a sense of commitment to the team, the leader and to their mission. From this cohesion creativity begins to emerge. The team finds new ways to do things and this leads to improvement. Improvement allows the team and organization to grow and succeed.

THE DICTATOR

On the other end of the continuum is the dictator. Under a dictator people do what the leader wants because they are afraid not to. They fear that they will be punished.

The coercion spreads among the team members until they too begin to coerce others. This sense of coercion leads to compliance, where people just go along. They don't want to make waves. Compliance results in stifled communication and decision making. No one is going to tell the leader the truth. No one is going to stick his or her neck out and point out a problem. Over time, the organization and team become rigid, unable to respond to changes. Eventually the team fails and, potentially, the organization dies.



HOW CAN YOU BUILD TRUST WITHIN YOUR TEAM AND BECOME A TRUSTED LEADER?

Here are four steps you can start with right away.

STEP #1: STOP MANAGING AND START LEADING

Stop managing your team (and projects) and start leading them. Managing deals with transactions. We create a schedule, develop minutes, order materials and delegate tasks. These transactions are what we DO, but they are not what make your team succeed or fail. They are the tasks of the job, which is where we focus far too often.

Leading deals with transformation. Leading engages people so they become what the team needs – and not just a task performer. By focusing on transactions instead of focusing on transforming mindsets and behaviors, you undermine your team's potential, along with your ability to teach your people how to BE successful on a team. BEING is always more powerful than doing. By focusing on developing the mindset and behavior required for success, you will be heading in the right direction. Over time, the right atmosphere and attitudes always equate to success.

STEP #2: DRIVE OUT FEAR

Some people feel that with authority they can MAKE people follow. When you make someone do something through coercion you can't help but to create FEAR. As stated before, if fear is the underlying motivation you don't have leadership because no one will volunteer to follow if they are fearful.

FEAR and TRUST cannot coexist – they are mutually exclusive! By definition, in order for leadership to exist, there must be high levels of trust. So as a leader you must constantly be looking for where fear exists. Even small pockets of fear can undermine the trust required for success. To combat fear you must create an atmosphere that allows for a dialogue to occur. This will allow the truth to surface in a safe fashion. Only then you can deal with the issue and work to understand the cause of the fear.

STEP #3: BUILD TRUST

We've asked everyone on dozens of teams to tell us the level of trust on the team. There was never more than a half point difference among the responses. Everyone knows how much trust exists within the team. Trust is your critical path to success. So monitor the level of trust within your team and work to improve it. You can do this with a monthly scorecard to determine the level of trust and teamwork that is occurring. We often measure budgets, production, output, schedule…so why not the most important measure – the LEVEL OF TRUST and how the team is working together.

STEP #4: DON'T LET THE PAST PREDICT YOUR FUTURE

Many times we just can't let go of something that occurred in the past. It keeps playing out in our minds and we begin to project it into the future. As a trusted leader you must not allow the past to predict your future. You must create a strong, positive vision for your team that overcomes past problems, issues or failures. Trust (or lack of trust) is evident to everyone in a team.

Part of creating a high trust culture is looking at the level of trust in your policies and transactions. This is most evident in your transactions with outsiders. Look at a sample contract. Is there fear built in? Are there pages and pages of boilerplate language trying to manage every potential risk? No matter how long a contract is, you can never cover all of the potential contingencies – you cannot replace trust. Look at what exists and don't let what has occurred in the past to decide the future of your team.

KEEP MOVING TOWARD THE TRUST SIDE OF THE CONTINUUM

The Continuum of Leadership allows you to see where you need to go as a leader. You must always strive to become a trusted leader if you want to produce consistent and great results. If you would like to see how you rate as a trusted leader you can take the Trusted Leader Quiz at www.PartneringInstitute.com/quiz.htm. You will receive a personalized profile of you as a trusted leader showing where you fall along the continuum. ■

***Sue Dyer**, MBA, MIPI, MDRF, is president of OrgMetrics LLC. She and her team specialize in developing collaborative cultures for construction project teams and organizations, helping them to perform as One Team™. OrgMetrics facilitates construction partnering using an array of collaboration tools that allow teams to develop the norms of collaboration, and then holds the team accountable to those norms so project success becomes more predictable. Sue is also the founder of the International Partnering Institute, a non-profit organization dedicated to changing the culture of construction to one that is more collaborative. For more information please contact Sue at suedyer@orgmet.com or 925 449-8300. Please visit her website at www.orgmet.com.*

Drones for Construction with a Look at Interior Construction Aspects

BY NEIL OPFER, ASSOCIATE PROFESSOR – CONSTRUCTION MANAGEMENT AT UNIVERSITY OF NEVADA, LAS VEGAS

Unmanned aerial vehicles (UAVs), more popularly known as "drones" are becoming increasingly prevalent on construction sites. Construction personnel are utilizing drones for such key tasks as jobsite aerial progress photos, construction inspections and safety inspections. When utilized for such tasks as jobsite progress photos, drones have been proven to provide higher quality photography at significant cost savings over traditional photography conventionally done with fixed-wing planes and helicopters. For the contractor looking to utilize drones on a jobsite, there are several issues to confront. Here in the U.S., those flying drones outside (aka public airspace) must adhere to regulations developed by the Federal Aviation Administration (FAA). An interior-focused contractor flying a drone inside a building does not have FAA compliance issues to confront, but does have special challenges in that such features as GPS and altitude hold-lock will not work. Another consideration is the type of drone to purchase, as their popularity has led to a multitude of choices becoming available. Costs considerations for contractors purchasing drones are not an issue, as there are many very capable drones available in the $500 to $1,500 price range. Moreover, constantly improving technology has made success in flying drones and achieving solid results relatively easy to accomplish compared to even a few years ago.

PERMISSION TO UTILIZE DRONES ON A JOBSITE

Construction personnel find themselves at various authority levels on jobsites depending on the contractual relationships. An interiors-trade contractor, as an example, ideally should obtain permission from the general contractor, construction manager or owner/developer depending upon their contracting position in the construction chain. Some are very reticent about jobsite photography because of potential misuse or that it may inadvertently show safety violations from the jobsite. With high tech or other high security installations, drone photography is obviously problematic. Contractors may want to insert clauses in their contracts allowing them to utilize drones where their utilization would not automatically be prohibited by security considerations. The contractor may find

permission granted faster when they agree to share their photography results with others on the jobsite.

Just as important as acquiring permission on the jobsite is not intruding on to those properties that are adjacent to the jobsite. People near a jobsite that see a drone may feel that their privacy is being invaded, simply when they see a drone nearby and do not realize that its only purpose is tied to the jobsite. Besides FAA regulations, a number of states and localities have either proposed or have passed their own regulations concerning drone usage. Usually these regulations concern law enforcement agencies and warrant requirements, but in some cases further regulate private drone usage.

DRONE FUNDAMENTALS

Model aircraft (remote-controlled (RC) planes or helicopters) in the past and the precursors of today's drones were typically gas-engine powered or some variant. Just as power tools on the jobsite have seen significant advances with battery technology to lithium batteries, so too have drones experienced this conversion. Improving lithium-based battery technology has meant lighter-weight units and longer flight times for drones. Battery technology has enabled quieter operation, greater ease of use and low maintenance requirements as compared to gas-engine units.

The "smart-phone wars" between the major phone manufacturers have meant that technology for drones that was previously unavailable or unaffordable except in military applications has spread to the drone world. This has led to the development of such features as GPS-positioning enhancements as well as high-resolution and light-weight compact cameras. For vertical construction applications such as buildings, the most useful drone type has been a helicopter unit. A helicopter-type unit allows vertical flight and the ability to hover on location while performing inspection or photographic tasks. Previously, however, single-rotor helicopters posed difficulties of operation for numerous potential users. For the past few years, multi-rotor units have become increasingly popular, essentially taking over the vast majority of the market, with four, six, or eight rotors. These multi-rotor units with a four-rotor unit seen in the above photograph are significantly easier to fly and provide a more-stable camera platform for high-quality photography needs.

MULTI-ROTOR DRONE (FOUR ROTORS) WITH PROPELLER GUARDS SHOWN ON TWO ROTORS

The current market for drones is characterized by three basic categories. These three are (1) toys, (2) racing drones and (3) drone platforms that include cameras and other technology. While units in the "toy" category do often include cameras, contractors are advised to avoid these units for serious jobsite use and likewise racing drones. Units in the toy category generally have significantly lower price points at usually less than $100. The problem with toy drones includes limited capabilities particularly with outside flight and the lack of availability of spare parts to fix the unit due to component failures or when crashes take place. Racing drones, while of higher quality, are designed for sport purposes and not commercial uses needed for jobsites. Therefore, contractors want to focus on the third category. These units typically include high-resolution cameras and can be fitted for other technology such as thermal imagers. Included or add-on technology are FPV (first-person view) goggles that enable outside operation without sunlight interference for the user. Price points for these drone platforms are typically from the $500 to $1,500 range.

Construction personnel are utilizing drones for such key tasks as jobsite aerial progress photos, construction inspections and safety inspections.

DRONE REGULATORY CONCERNS

In mid-2016, the Federal Aviation Administration (FAA) issued their regulations concerning drone usage also known as Part 107. FAA regulations only apply to outside usage of drones, therefore a contractor using them solely inside buildings and other structures would not be bound by these requirements. Previous to this, the FAA had issued Section 333 exemptions to a variety of entities including contractors for use of

drones in outside applications. The Section 333 exemptions were very restrictive in their requirements for licensed aviation pilots and limited to a specific drone for a specific jobsite. The Part 107 requirements necessitate the passing of both a 60-question exam and a TSA-background check, but once this is done, the requirements do not pose restrictions as to use of a variety of drones across jobsites. Key restrictions in Part 107 beyond this include no usage within five miles of a major airport, flight limits between sunrise to sunset, no flights over those not involved in drone operations and drones must be in pilot's line-of-sight at all times. The most vexing requirement here is the line-of-sight provision. For example, a curtain-wall contractor is flying a drone outside for inspection of a building's exterior cladding. If the stationary operator flies the unit around the side of the building away from their view even though, for example, they have a view through the unit's camera, but this then violates this FAA requirement.

So, does an interior-construction contractor need to meet FAA requirements? That same contractor may want to fly the drone outside the building to document jobsite conditions such as construction progress and materials-storage issues on site. These items would require adherence to the FAA regulations.

Drones such as this $250 camera drone are becoming increasingly more capable and inexpensive.

DRONE JOBSITE SAFETY CONCERNS

Drones can be dangerous to those working on jobsites if, due to a mechanical failure, the drone crashes. Therefore, one should never fly over people. On the typical personnel-congested jobsite, this may mean flying the unit on a pre-shift or post-shift basis to avoid flying over people. Another issue is when flying the unit inside where operations need to avoid flying too close to walls and ceilings. Trade damage to finished surfaces is a constant issue on jobsites and therefore there is no need to create additional trade damage with drones crashing into something like a finished wall surface. Often, trade damage caused by drones can be more expensive to fix since it is at elevation requiring a boom lift or scissors lift for access as opposed to most worker-caused trade damage at ground level. Due to airflow dynamics, flying too close to a wall or ceiling can literally "suck" a drone into that same wall or ceiling. The earlier photograph of the drone showed the application of propeller guards shown on two of the four rotors of the unit. Propeller guards for inside use are a key accessory to minimize or eliminate trade damage issues and protect the drone itself from damage.

When inside, the drone pilot typically has much less room for maneuvering the unit due to the restrictions posed by room sizes and ceiling heights. Moreover, inside a building, certain features such as GPS control cannot be utilized due to the lack of a satellite view. Drone pilots should first practice with the unit outside and then gain inside flight experience, if possible, in a more-forgiving environment such as a contractor's warehouse. Once experienced in these warehouse or similar inside environments, the drone pilot will avoid self-inflicted problems at the actual jobsite.

Other safety concerns when utilizing drones include pre-flight and post-flight inspection with a special emphasis towards cracked or loose components. A temperature-sensing unit can survey electric motors prior to flight and after flights. A motor running significantly hotter than others, say one propeller motor out of four, can indicate imminent component failure. Flight times due to improved battery technology have greatly improved to often in excess of 20 minutes and spare batteries can obviously extend this. In any case, no flights should be continued or attempted

Drones can be dangerous to those working on jobsites if, due to a mechanical failure, the drone crashes. Therefore, one should never fly over people.

Construction marketing photo taken with a drone.

with low battery levels, which means time monitoring to avoid this safety issue.

DRONE APPLICATIONS

Contractors utilizing drones surveyed by this writer have found that at least 75 percent of the usage is for jobsite photography. Other common applications are for construction marketing (brochure photography or videography – jobsite fly-throughs), construction progress/quality inspections and safety inspections. Other contractors are also utilizing drones to assist with site visits with photographs for estimating purposes, productivity improvement on site and documenting issues relevant to construction claims.

It should be noted that drones equipped with cameras or other devices such as thermal imagers can quickly amass large amounts of data. This data is useless unless it is viewed, organized and categorized. One potential issue that may come later down the road is answering the question of "which office building did these photos come from." Moreover, construction jobsites are continually changing, and thus to take full advantage of the production of a drone camera platform application, this product has to be regularly viewed in a timely fashion. Most drone platforms are equipped with cameras best suited for exterior applications. As anyone who has utilized a conventional camera inside or at night knows, a flash attachment is essential. Drone cameras don't come with flash attachments, so interior drone photography applications inside a building may require the assistance of supplemental lighting.

Contractors with multiple jobsites may want to have a designated person going from jobsite to jobsite with a drone. In other cases, the consideration for a large work package at a single site may be for dedicated drones with qualified personnel tasked to these jobsites. In either case, the results of these drone flights must be reviewed for current usage and application. For future use, these results must be categorized, organized and safely stored remotely from the jobsite. As an example, a contractor decides to fly their site once a day for photography or video purposes as jobsite documentation. This drone photo/video product is then downloaded to a computer at the jobsite with labelling done on a daily basis. This effort, all told, may

Contractors utilizing drones surveyed by this writer have found that at least 75 percent of the usage is for jobsite photography.

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like finding a space to discuss ceiling solutions for

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Construction inspection photo – broken roof tile.

take a project engineer one hour per day and say 250 days in the year at this jobsite. At $50 per hour fully-burdened rate for the project engineer's time, this effort has cost $12,500 just in that person's time (250 days x 1 hour per day x $50 per hour). Moreover, that time investment, while substantial, may be more important with the key element of jobsite documentation that later significantly assists in documenting a $250,000 construction claim. Therefore, this work product needs to be protected with remote storage in a non-volatile storage medium such as CD or DVD.

CONCLUSION

The utilization of drones presents many opportunities for those in the construction industry. Contractors are always searching for tools that improve their operations, and the use of drones can be one of these tools. Prices for drone technology, including GPS features and high-quality cameras, have dropped to the point where very capable packages are available and affordable from prices ranging in the $500 to $1,500 area. Contractors also must adhere to FAA regulations and other local/state requirements when utilizing drones in outside-the-building applications. For inside-the-building applications, there are no regulatory restrictions, but permission needs to be sought from those including owner/developers. Safety in the utilization of drones is a key consideration, and interior flights pose the need for increased experience and vigilance on drone pilots in this environment. The construction industry is seeing the increased use of drones on jobsites for job-progress photos, construction inspection, safety inspection, productivity improvement, construction marketing and assistance with documentation for estimating or potential construction claims. ■

Neil Opfer *has extensive experience in the construction industry in various construction positions and as a construction faculty member and construction consultant. He has been employed in the construction divisions of such firms as Inland Steel (Arcelor-Mittal), Morrison-Knudsen (URS), CE Lummus (ABB) and Standard Oil of California (Chevron). He has been on the faculty of the Construction Management Program – College of Engineering at UNLV since 1989. He has been a licensed general contractor in the State of Nevada since 1999. He has had extensive experience in construction consulting for a number of ENR Top 400 Contractors and Fortune Top 500 Firms. In junior high school, he first became involved in flying model aircraft which were then the early precursors of today's drones.*

Drug and Alcohol TESTING POLICIES — A GUIDELINE FOR EMPLOYERS

BY LAURYN E. PARKS, ESQ.,
MOMKUS MCCLUSKEY ROBERTS, LLC

Employers often assume that they can require current employees and job applicants to submit to drug and alcohol testing at any time. However, there is a growing array of state and federal regulations that limit if, and when, such testing is permitted.

FEDERAL LAWS

There is no comprehensive federal law that regulates drug or alcohol testing among private employers. The Department of Transportation requires the industries it regulates to conduct random drug and alcohol screening for workers in safety sensitive jobs, as well as testing after an accident and when there is a "reasonable suspicion" of employee substance abuse. The federal Omnibus Transportation Employee Testing Act (OTETA) requires tests for all operators of commercial motor vehicles.

There are also some federal *limitations* on drug and alcohol testing. In the context of job interviews, the Americans with Disability Act (ADA) limits the use of screening tests, as well as kinds of questions that can be asked of the applicant. The ADA considers alcoholism to be a disability. As a result, employers cannot ask job candidates about the quantity of alcohol that they consume, and a job applicant cannot be required to submit to an alcohol screening test unless (i) the employer has made a conditional officer of employment, (ii) the employer requires every applicant for the job category to be tested and (iii) the alcohol screening is related to the functions of the job and the employer's business necessity.[1] An employer may ask applicants about current illegal drug use and may test applicants for the use of illegal drugs.[2]

The Occupational Health and Safety Administration (OSHA) has promulgated rules that limit drug testing following a workplace accident. OSHA takes the position that mandatory post-injury drug and alcohol testing deters employees from reporting accidents.[3] Accordingly, OSHA has indicated that post-injury drug and alcohol testing should be limited to situations where there is "a reasonable possibility that drug use by the reporting employee was a contributing factor" to the accident.[4] Thus, under OSHA's guidelines, employers should not automatically perform drug and alcohol testing following all workplace accidents.

There is no comprehensive federal law that regulates drug or alcohol testing among private employers.

STATE LAWS

Many states have no limitations on how and when employers can perform drug and alcohol tests on employees and job applicants. But many states do, so employers should be careful that their testing policy and practice complies with both federal *and* state regulations.

For example, many states, such as Alaska, Maryland and Mississippi, allow

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employers to require job applicants to submit to drug and alcohol tests without restriction, while other states, such as Arizona and Iowa, allow these tests to be performed only if the applicant is warned in writing of the screening exam.[5] States such as Alabama, Idaho, Maine and Ohio prohibit an employer from performing screening tests on a job applicant until a conditional offer of employment has been made, and Oregon prohibits such testing unless the employer has a reasonable suspicion that the applicant is under the influence of alcohol or a controlled substance.[6]

Once the applicant becomes an employee, many states, such as Florida, require that the employee be provided with advance written notice of the employer's drug and alcohol testing policy.[7] States such as Connecticut allow testing only if there is a reasonable suspicion that the employee used alcohol or controlled substances, and Louisiana prohibits an employer from terminating the employee on the basis of a first-time positive test finding.[8]

Employers should also keep in mind that 28 states allow the use of marijuana for medical purposes and 8 states have legalized it outright. While employers are always free to prohibit the use of marijuana at work, in states where its use is legalized, employers must be careful to avoid disciplining an employee for legal marijuana use that took place outside work hours.

Above all, it is important for employers to have carefully drafted written policies laying out when drug or alcohol testing may be performed in accordance with local and federal rules and to consistently adhere to these policies. ■

SOURCES

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2. 42 U.S.C. §12114.
3. Occupations Health and Safety Administration, Improve Tracking of Workplace Injuries and Illnesses, 81 Fed. Reg. 29624 (May 12, 2016).
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8. Conn. Gen. Stat. §14-261 *et seq.*; La Rev. Stat. §46.460.4.

EDITOR'S NOTE

Most insurance companies have a discount structure for a drug testing policy for employees.


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