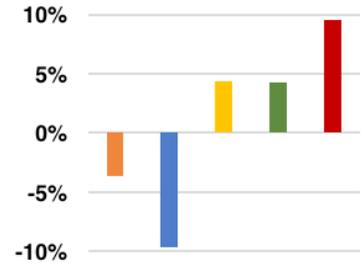


TRENDLINES

Engineering salaries



According to Zweig Group's 2017 Salary Survey of Engineering Firms, **entry-level engineers** were hired at a lower base salary, -3.7 percent, than they were the year before. The typical **newly licensed engineer** also experienced a lower base salary, -9.7 percent, compared to the year before. **Project managers** and **department managers** experienced wage growth of more than 4 percent and the wages of **principals** grew almost 10 percent. Total salary increases, across all firms and disciplines, amounted to around 4.5 percent. (Special discount to TZL subscribers: Use code **SRVY35off** to order surveys at 35 percent off at zweiggroup.myshopify.com/collections/frontpage)

What I have learned about M&As in the past year

“2016 was an amazing year, filled with lots of success as well as great learning opportunities for me and the rest of our M&A folks at Zweig Group.”



Mark Zweig

EDITORIAL

2016 was quite a year for the AEC industry and for Zweig Group as well. Merger and acquisition activity, and interest in the subject, has never been higher than it is right now. Our firm was involved in many transactions this year, and I was personally involved in most of them. Here's some of what I learned this year about M&A in our field:

- 1) Auctions are coming.** We have seen several in the last year. Some of the letters we have seen are amazing in that they are so brazen. “We will be reviewing all offers made by such-and-such date (about 10-14 days from date of letter). All interested parties must have (specific financial criteria listed).” Pretty crazy stuff! We had one client who made an offer under these circumstances and did actually end up acquiring a significant firm. We had another client that lost a firm they were in discussions with when their advisor turned it into an auction. With the number of qualified buyers out there in the market I think we'll be seeing more of this.
- 2) Many sellers have completely unrealistic ideas of what they are worth.** There are shady investment bankers and business brokers who put on seminars (who says there is no such thing as a free lunch?) where they talk about things such as “unlocking the equity in your _____ firm.” Their entire goal is to get wannabe sellers to list their firms with them and for so much money per month for a period of six months or a year they will prepare a “pitch book” and market the sellers to potential buyers. Along the way, they inflate the sellers' expectations to where they think they are

See MARK ZWEIG, page 2

MORE COLUMNS

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Employee fulfillment

BUSINESS NEWS

QUARTUS ENGINEERING RELOCATES SAN DIEGO HEADQUARTERS Quartus Engineering Incorporated, a San Diego-based engineering and manufacturing firm supporting aerospace, defense, and optical industries, has moved its corporate headquarters, offices and manufacturing space to a new facility at 9689 Towne Centre Drive.

Just a few miles from the firm's previous headquarters, the new UTC-area facility merges three separate offices into one, while also providing expanded manufacturing and clean room space, as well as room for growth for the engineering staff.

"Our new facility nearly doubles our office space, allowing us to bring together 80 staff members who were previously spread across three San Diego locations, and giving them the opportunity to work more efficiently as a team with shared resources," said President and CEO Doug Botos. "It also provides five times the

previous clean room and manufacturing space, which we feel is needed to meet our customers' increasing requirements. Finally, as we look toward the future, it provides additional room to grow our staff and bandwidth as our customer base expands."

The 47,000-square-foot space includes 5,000 square feet of Class 10,000 clean rooms for optical assembly, 17,000 square feet of manufacturing space for fabrication and assembly of hardware, 18,000 square feet of general office space and an additional 7,000 square feet for future expansion.

"Our expanding customer base in multiple industries has necessitated adding staff, infrastructure, and fabrication capability," said Vice President of Sales and Marketing Jeff Frantz. "This will assure we continue to provide state of the art engineering and manufacturing services to our customers so they can meet their product development commitments."

MARK ZWEIG, from page 1

worth two or three times revenue, which of course they are not, but sellers don't know any better (some, at least) and sign up with these firms for a year to see what happens. Nothing usually happens other than their bank accounts get tapped every month!

3) Sellers should be more concerned about tying down key people post-transaction.

When someone buys an AEC firm, they are, to a great extent, buying the staff. The staff needs to be there for them to pay off the acquisition. Most smart buyers hold back a certain amount of money for a certain amount of time, in part, to be sure the key people stay on board. Sellers need to protect the buyers and their own interests and keep these people committed to the firm. That is where retention bonuses come into play. Stay so long and you get so much money. Some, if not all of this money, typically comes from the sellers themselves.

4) Terms may be more important than the price.

How much cash you get up front or in a note may be more valuable to you than a deal with a higher total value but where half of the total consideration paid is based on meeting certain performance metrics.

5) There are less purely financially-driven buyers and sellers, and much more concern about future plans and compatibility.

This is because there are so many more buyers out there in the market place – firms already in the business. They are smart and understand the reasons for doing an acquisition and the factors that lead to success or failure in this industry because they themselves are in it. I see this as a good thing!

6) People who move quickly are more successful in their merger and acquisition efforts.

Foot-draggers, people who can't make a decision, people who need to hold board meetings to review minor changes to an LOI, etc., will fail at the business of M&A – whether they are buyers or sellers. Firms that know what they are doing can move quickly and be responsive and flexible. It is essential today because there are so many buyers and sellers in the marketplace and everyone has other options!

7) Firms are doing well because the market is doing well, not necessarily because they are doing the right thing to run their businesses successfully.

This is contributing to a false sense of well-being on the part of many sellers who may find that during the next recession their firm's performance will falter and their value and desirability to an outside buyer may fall as well.

2016 was an amazing year, filled with lots of success as well as great learning opportunities for me and the rest of our M&A folks at Zweig Group. Our prediction is a 100 percent increase in volume of M&A work in 2017. The market has never been better! ▀

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thezweigletter.com/category/podcast/

THE ZWEIG LETTER

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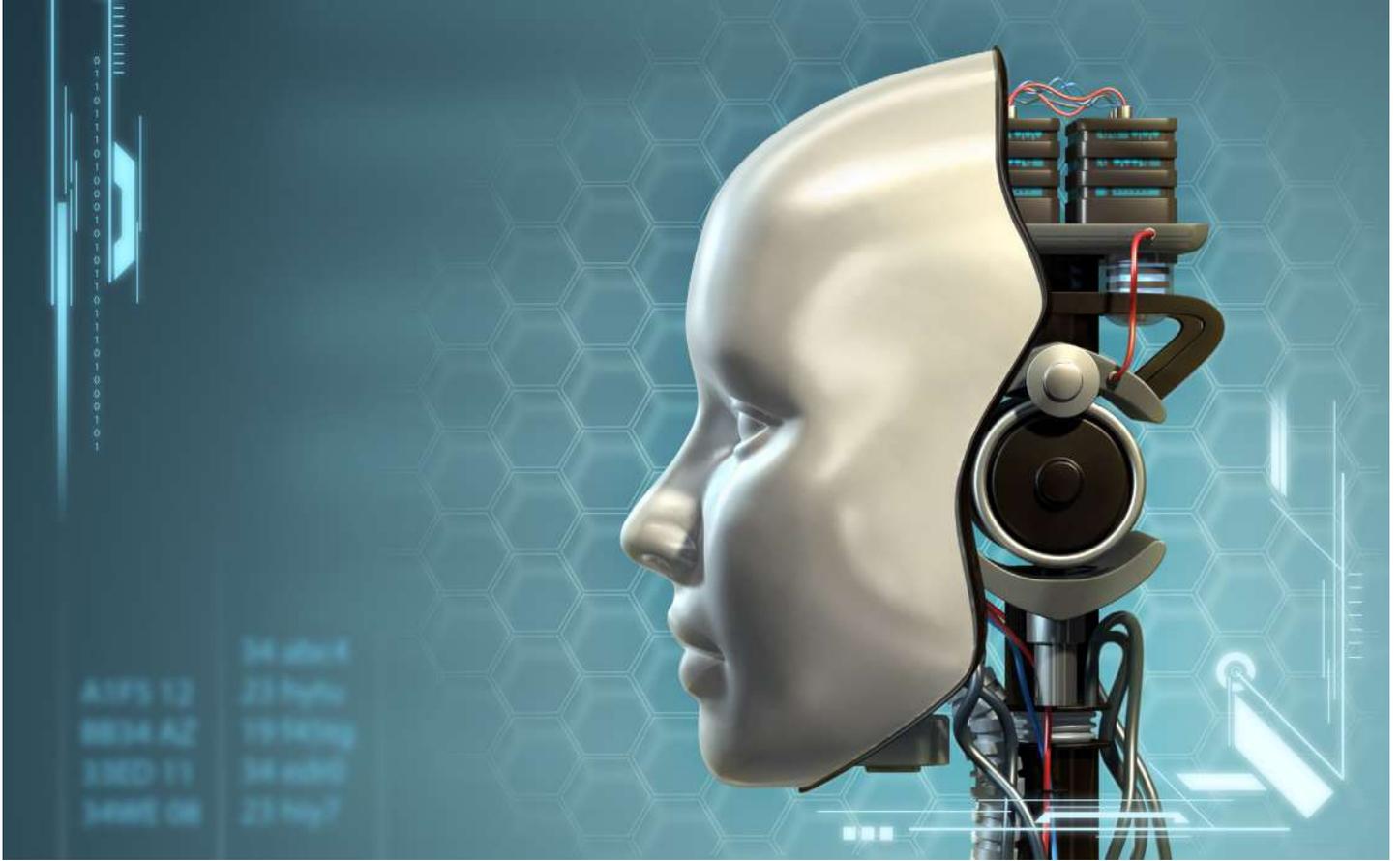
Published continuously since 1992 by Zweig Group, Fayetteville, Arkansas, USA. ISSN 1068-1310.

Issued weekly (48 issues/yr.). \$475 for one-year subscription, \$775 for two-year subscription.

Article reprints: For high-quality reprints, including Eprints and NXTprints, please contact The YGS Group at 717-399-1900, ext. 139, or email TheZweigLetter@TheYGSGroup.com.

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OPINION



Do you trust the marketing robots?

Automation can be helpful, save a ton of money, and even cut down on errors, but you have to know how to push the ‘stop’ button.



**Christina
Zweig**

MARKETING MATTERS

Not long ago someone at Zweig Group was scheduling posts for the *civil + structural ENGINEER* magazine Twitter handle. She noticed a company we were following was posting “thank you” tweets. They said something along the lines of, “Thank you [XYZ Firm] for following us.” Unfortunately, someone out in the Twitter-universe got wind of this company’s automation and was creating fake Twitter handles and following the company from each of these at a rapid pace. I won’t type them here, but you can guess what some of the names were, and the results weren’t pretty.

This employee has a kind heart, so she immediately called the company to inform them of the issue to see if they could stop it quickly. Their response: “The marketing person who handles this is out to lunch right now.”

Everyone watched in horror as the company’s Twitter feed got progressively more out of hand over the next few hours.

After this story you may feel that marketing automation isn’t worth the trouble, is hard to

“Everyone watched in horror as the company’s Twitter feed got progressively more out of hand over the next few hours.”

manage, and bad for your business, but marketing automation can be helpful, save a ton of time, and even cut down on errors. There are definitely some lessons to learn from this experience.

See CHRISTINA ZWEIG, page 4



BUSINESS NEWS

THE CONSTRUCTION USERS ROUNDTABLE RECOGNIZES FLUOR FOR ITS LEADERSHIP IN CRAFT WORKFORCE DEVELOPMENT Fluor Corporation announced that the Construction Users Roundtable has honored Fluor's United States Gulf Coast Craft Training Center with its 2016 Workforce Development Award. Fluor received the award at the CURT Awards of Excellence Celebration in New Orleans.

Located in Pasadena, Texas, the recently opened United States Gulf Coast Craft Training Center offers tuition-free, pre-employment training in the welding, electrical, instrumentation, millwright, and pipefitting disciplines. With an intensive, NCCER-certified curriculum that combines classroom with hands-on training, the center trains more than 300 students annually. Upon graduation, students are equipped with industry-recognized certifications and can embark on careers in the construction industry.

"We are honored that CURT has recognized our commitment to investing in and developing the craft workforce of the future," said Mark Landry, senior vice president and chief human resources officer for Fluor. "Since the 1960s, Fluor has led craft training in the industries we serve. Through the United States Gulf Coast Craft Training Center, after-hours training at our job sites and our supervisory training, we provide a comprehensive approach to training at every stage of a craft professional's career."

"Skilled craft professionals are in high demand throughout the United States," said Jim Hanna, vice president of craft services and industrial relations for Fluor. "The U.S. Gulf Coast Craft Training Center creates new opportunities for individuals to embark on these rewarding careers and Fluor is proud to be building and strengthening the pipeline of skilled craft professionals."

An autonomous, not-for-profit organization, CURT is the premier construction owner organization around the world and strives to produce meaningful changes in the construction industry. The CURT Workforce Development Awards were developed to recognize extraordinary and innovative training and education programs that encourage individuals to pursue a career in the construction industry or enhance an individual's construction skills.

BRUNSWICK COUNTY POWER STATION RECOGNIZED BY ENR MID-ATLANTIC AS BEST PROJECT AND EXCELLENCE IN SAFETY Fluor Corporation announced that the Brunswick County Power Station has been named Best Project in the energy/industrial category as well as Excellence in Safety Best Project by *Engineering News-Record Mid-Atlantic*. Fluor designed, constructed, and commissioned the 1,358-megawatt natural gas combined-cycle facility for Dominion Virginia Power.

The *ENR Mid-Atlantic* awards program features 18 categories dedicated to honoring the best construction projects and the companies that designed and built them. Judges selected the winning projects from 65 nominations in the Mid-Atlantic region, which encompasses Delaware, Maryland, Pennsylvania, Virginia, West Virginia, and the District of Columbia. Projects were evaluated on the ability of the project team to overcome challenges, contribution to the industry and community, safety, and construction and design quality.

Brunswick County Power Station began commercial operations in April 2016 with Fluor providing engineering, procurement, construction, and commissioning services for the facility. Fluor's construction staff and craft peaked at about 1,500 team members. The construction team successfully installed more than 38,000 cubic yards of concrete, 142,000 linear feet of pipe, and 420 miles of

pipeline. The project was completed ahead of schedule. Significant attention was placed on safety, a core value for both Fluor and Dominion.

The honors were announced Tuesday, November 1, 2016 at the *ENR Mid-Atlantic* awards presentation in Baltimore.

"Receiving this recognition from *ENR Mid-Atlantic* is truly an honor for Fluor," said Wolfgang Greinke, vice president of Fluor's power business. "This project exemplifies Fluor's expertise and commitment to bringing clean, natural gas energy to the grid. We are particularly proud that the project was recognized for safety excellence. Our project team, together with Dominion, is truly deserving of this notable recognition from *ENR*."

"Dominion is very proud to win this award from *ENR* – along with Fluor – for the Brunswick County Power station project," said Mark Mitchell, vice president of generation construction for Dominion. "We are especially proud that the station also won the Excellence in Safety Award. Providing clean, affordable, and reliable power every day to our customers is our commitment, and by adding Brunswick to our fleet, it contributes daily to doing just that."

As a top category winning project in *ENR Mid-Atlantic*, Brunswick County Power Station will compete in the national competition with projects recognized in the energy/industrial category in *ENR*'s other eight regions across the U.S. and Puerto Rico. The selected project will be recognized as an *ENR* Best of the Best Project in a special editorial feature in early 2017.

CHRISTINA ZWEIG, from page 3

- 1) **Test. Test. Test.** Get someone else to test, repeat.
- 2) **Don't ever leave automations unattended for long periods of time.** Following that – have a back-up person or three with access to whatever is being automated, be it follow-up emails, social media, or something else. Everyone at least needs to know how to push the "stop" button.
- 3) **Think about what you are personalizing and why.** I like to save personalization on automations for things like follow up emails, not large-scale public formats like social media.
- 4) **Include immediate contact emails/numbers on everything.** Do not hide this information from clients who want to reach you directly or may be having difficulty accessing something automated by your firm.

Don't be scared of marketing automations – embrace

"After this story you may feel that marketing automation isn't worth the trouble, is hard to manage, and bad for your business, but marketing automation can be helpful, save a ton of time, and even cut down on errors."

them, but do the necessary homework to make sure your company's message is getting through to the person and in the way you initially intended, and always be available to help promptly! ▀

CHRISTINA ZWEIG is Zweig Group's director of marketing. Contact her at christinaz@zweiggroup.com.

OPINION



A champagne toast

Recognizing hard work and celebrating a job well done is common practice at HED. Whether it's a thank you note or another form of congratulations, success is celebrated.



**Emma
Real**

**GUEST
SPEAKER**

As a firm that's been around for more than 100 years, **HED** (Hot Firm #23 for 2016) recognizes that a strong culture is vital to the success of our practice. Over time our brand has evolved – we have learned new technologies, adapted to change, and grown in size and scale – but our core values and beliefs remain the same.

We recently embarked on a project to reassess and reaffirm our values and brand identity. Following months of diving deeper into our culture and our belief system to get at the heart of who we are, we put our beliefs into words and created our four guiding principles.

Advancing your world, critical thinking, integrated practice, and design excellence – these four principles are fundamental to the culture of HED – guiding our thinking, our behavior, our belief system, our mindset. They are the guideposts for our collective and individual decisions and actions and our relationships with clients, partners, our

“Over time our brand has evolved – we have learned new technologies, adapted to change, and grown in size and scale – but our core values and beliefs remain the same.”

colleagues, and the community at large.

Today, our guiding principles are visible in every aspect of our organization's daily life. In a recent

See EMMA REAL, page 8



SPOTLIGHT ON: Fulfillment

OPINION



Employee fulfillment

Company leaders play an important role in making sure their people are aligned, capable, and engaged – a recipe for success.



William Schiemann

**GUEST
SPEAKER**

Are your employees fulfilled? If not, it may be costing you a bundle. While nearly 100 percent of people are seeking life fulfillment – creating a lifestyle that brings exceptional happiness and inner peace – nearly 80 percent are less than fully fulfilled. It shows up in attention at work, productivity, customer service, quality, and ultimate turnover. Gallup reported that 49 percent of employees are actively disengaged, and Metrus finds less than one-third highly engaged.

“Our research identified three key people factors that are all needed to drive superior business results – aligned, capable, and engaged people.”

But engagement alone is not enough. Our research identified three key people factors that are all needed to drive superior business

results – aligned, capable, and engaged people. Interestingly, we discovered these same three factors are important for life fulfillment when viewed through the eyes of employees. Do employees see their life goals and organizational goals and values aligned? Are they developing capabilities at work that will also serve them well in other areas of their lives or for future jobs? Are people’s passions being leveraged? Leaders can do a variety of things that will increase their chances of creating aligned, capable, and engaged people.





Here are a few:

- **Forget work-life balance and think work-life integration.** It is no longer possible for most leaders or workers to cordon off the work and non-work segments of life. People answer email or texts at home, leave work early to pick up a child in day care, or write reports from the bleachers at a sports event. Work and life are integrated – the reality is that they have always been. But today there is a constant interplay of both in many jobs. Do your company’s policies and operating style accommodate this new model?

“Do employees see their life goals and organizational goals and values aligned? Are they developing capabilities at work that will also serve them well in other areas of their lives or for future jobs? Are people’s passions being leveraged?”

- **Reduce stress.** Stress has been on the increase as the pace of change and competition has increased dramatically. Employees ask: Will my job be here tomorrow? Will I meet this nearly impossible deadline? How can I manage the workload I am carrying? No matter how much I do, there is always more! And there is ample evidence that stress is debilitating physically and mentally. Much of the stress is also because work demands conflict with personal non-work aspirations or commitments – volunteering, family obligations, education, health. Unless time is effectively managed across all sectors of one’s lives, stress will be insidious. Leaders can help by doing a better job of prioritizing requests and work demands, thereby helping their people make choices that will be aligned with business needs and eliminate time spent on lower priority items.
- **Sync company and contributor goals.** We discovered that aligned, capable, and engaged employees only become that way when the organization and the work they do is in sync with their life goals and values, they are developing skills that will help them in life (not just this job), and it taps into their passions. Typically, 75 to 85 percent of employees are satisfied with the work they do according to Metrus, but far fewer are satisfied with their companies as a place to work because of their boss, coworkers, or company policies. Engagement can be aroused by an exciting mission, a vision of a better future, a chance to grow, or an environment in which their contributions are recognized.

“Leaders can do a variety of things that will increase their chances of creating aligned, capable, and engaged people.”

- **Re-examine your employer brand.** Address millennial needs – and all boats will rise. If you address millennial needs, all generational boats will rise. Almost everyone

ALIGNED CAPABLE ENGAGED

today is concerned about finding the right millennials to hire, and then how to keep them. Millennials have the advantage today of arriving at the perfect talent storm – fewer people with the right skills just as the baby boomers are retiring in droves. Millennials with the right skills can pick and choose where they want to work and how long they will stay. Those who find more fulfillment in company roles are likely to stay, tell others, and contribute more. So, a key opportunity is re-examining your employer brand attributes and your culture to see if it is attractive in the marketplace. Have you made the kind of changes in policies, operating style, and leader skills that will attract and retain scarce talent? In doing so, you will also retain more of your other “A” players.

“Work and life are integrated – the reality is that they have always been. But today there is a constant interplay of both in many jobs. Do your company’s policies and operating style accommodate this new model?”

- **Set the tone at the top.** Garry Ridge, CEO of WD-40 Corporation, argues that senior executives need to be servant leaders, with the goal of enabling their people to be “A” players. When they score high, everyone wins. Garry holds his leaders accountable for enabling people and creating an environment that is conducive to creativity and a culture of performance. His regional “tribes,” as they are called, are empowered to make decisions that will help them reach their goals more rapidly.
- **Educate leaders about the power of fulfillment.** Conduct fulfillment training for your top leaders and managers, enabling them to become more skilled in understanding the role of fulfillment and how they can provide better balance, guidance, and support in creating more fulfilling workplaces.

If leaders takes these key steps, their organization will be on the road to becoming a far healthier and more productive organization. ▸

WILLIAM SCHIEMANN, Ph.D., is CEO of Metrus Group. He is a thought leader in human resources, employee engagement, and fulfillment. For more information visit wschiemann.com.

BUSINESS NEWS

JACOBS WINS CONTRACT FROM EXXONMOBIL FOR POLYETHYLENE EXPANSION Jacobs Engineering Group Inc. announced it received a contract from ExxonMobil Chemical Company to provide engineering, design, and construction management services as part of a new 650 kTa polyethylene facility to be located at ExxonMobil's Beaumont polyethylene plant.

Under the terms of the contract, Jacobs is

delivering front end engineering, detailed design, and construction management to support enabling works and installation of offsite facilities, including rail, and interconnecting piping required for the new polyethylene train. The completed facility will produce pelletized polyethylene to be used in the manufacture of plastic products.

In making the announcement, Jacobs Senior Vice President Petroleum and Chemicals

Manuel Junco stated, "Our proactive project execution plan will support the high degree of integration and versatility of ExxonMobil's existing plant, all while delivering a design that enables safe, efficient construction. The experience and lessons learned we've gained while executing similar, recent projects will contribute to the success of this important expansion."

EMMA REAL, from page 5

video project, we asked our people to reflect on what the guiding principles mean to them, and what it's like to be part of the HED family. Here's what they had to say.

EVERYONE HAS A VOICE. We pride ourselves on a culture where leadership is a participatory practice – everyone has a voice. Whether you are a junior staff member, or the lead designer on a project, we listen to each other, share ideas and collaborate to cultivate breakthroughs.

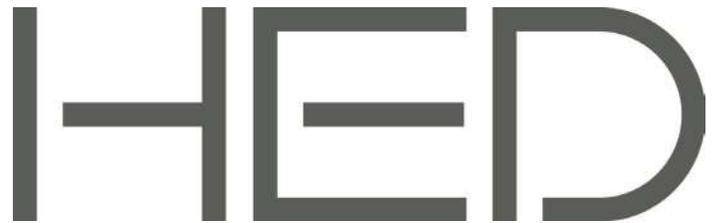
When asked about advice for a new staff member, Max Garland, an interior architect in our Chicago office said don't be afraid to be vocal. "We have an open office plan, so whether you are a junior architect or senior staffer, you are sitting next to the managing principal or next to the design leads on projects. There are no doors, no walls, so it's really easy to go up and talk to them and voice your ideas."

"Come in and grab the reins," says Tracy Sweeney, an associate and architect in our Detroit office. "Because what's great about the culture is the flat hierarchy. You're able to get your ideas heard and make a difference on a project team. Don't be afraid to come in and get your hands dirty right away."

"We recently embarked on a project to reassess and reaffirm our values and brand identity. Following months of diving deeper into our culture and our belief system to get at the heart of who we are, we put our beliefs into words and created our four guiding principles."

WE CELEBRATE EACH OTHER. Recognizing hard work and celebrating a job well done is common practice at HED. Whether it's a thank you note from a project lead, a post on the intranet with congratulations or a champagne toast to celebrate a new project win, we all celebrate each other's success.

During a recent client presentation, Ying Lin, architectural designer in our Los Angeles office, saw first-hand how leaders recognize and celebrate our success. "I recently sat in on a client presentation and I remember there was



so much praise from the client for our work. During the presentation, the project lead at HED asked the client to turn around and congratulate the team that was working on it. It was nice to have recognition from a senior colleague and see the client appreciate the hard work that was put into it."

WE ADD VALUE. Because everything we do and touch has an effect on the world around us, we believe we have a responsibility to make contributions that enhance the world and the communities around us. Through design, we can add value and make the world a better place.

Katherine Simson, architectural designer in our Chicago office, shared how she's helping add value to the homeless population in Gary, Indiana, through a permanent supportive housing development she's designing. "We are designing a home for the residents to feel safe in and bringing a level of design to people who really need it to progress in life. For that it is very rewarding."

Garland notes, "When we design, we are physically creating an experience for the end-user. It's like art on a completely different scale and to me that's really powerful to be involved in."

WE ARE FAMILY. When you join HED, you become part of the family.

As a member of the HED family for the last 14 years, Rafael Noriega, an electrical engineer in our Los Angeles office, has made friends for life. He shared that the moment he arrives at the office, he greets his friends and loves to hear their stories. "I have friends at the office that I go cycling with on the weekends, salsa dancing, and out to eat."

View our entire video project on our YouTube channel. 

EMMA REAL is in corporate communications at HED. She can be reached at ereal@hed.design.



Preserving finite resources

As architects and engineers, we need to be on the front line in the campaign against inefficiency and waste.



Ed
Friedrichs

FROM THE
CHAIRMAN

I just listened to an excellent edition of National Public Radio's TED Radio Hour titled "Finite," which speaks of the way in which we, as a civilization, are squandering so many of our resources. The episode begins with a lengthy description of two of the most perilous issues facing human civilization – water and oil. Forget about global warming for a moment, think about a planet without either water or oil.

A Stanford University professor I heard speak a few years ago tackled the controversial topic of the connection between carbon dioxide and global warming, but he declared his deeper concern was the finite deposits of complex hydrocarbons on our planet, formed over millions of years, with no way to replenish the supply.

We use petroleum for much more than burning it for power. An example from the TED talk described oil being pumped out of the ground in Saudi Arabia, refined in a neighboring country and shipped to China where it is used for plastic to manufacture children's toys. These toys are shipped around the world, frequently used for a

"As architects, engineers, designers, developers and building materials manufacturers, we can have a profound effect on the usage and preservation of precious natural resources."

short period of time before they become broken and tossed in a landfill. That's not a very effective chain of events when you add in the cost of fuel

See ED FRIEDRICHS, page 10



ON THE MOVE

SAM F. LICHENSTEIN NAMED PROJECT MANAGER AT ATWELL Consulting, engineering, and construction services firm **Atwell, LLC** announced that Sam Lichenstein has joined the firm as project manager, land solutions, power and energy. Based in San Antonio, his responsibilities will include market expansion, client development, and team management. Lichenstein will support wind energy and electrical transmission projects, and help grow the land solutions services nationally.

Lichenstein is former owner of a Texas-based land services company, where he performed and managed mineral take-offs, leasehold reports, abstracts for title opinions, unit

designations, lease negotiations and amendments, curative work, surface ownership research, surface damage negotiations, easement negotiations, and negotiations of land purchases for oil and gas and the renewable energy industries. He has worked in Texas, Oklahoma, New Mexico, Colorado, Wyoming, Utah, Florida, Alabama, Mississippi, and Louisiana.

Lichenstein is a licensed Texas real estate agent, and a member of the American Association of Professional Landmen, PBLA, and the International Right of Way Association. Over the last three years, he performed due diligence and conducted lease negotiations for more than 30,000

mineral acres in West Texas, and performed due diligence or managed the due diligence of more than 1,000 miles of right of way for pipeline, electric line, and access.

“Lichenstein’s management skills and experience in land solutions and lease negotiations, and his expertise in the oil and gas, and renewable energies markets are a great addition to our team,” said Atwell Vice President, Power and Energy Matthew Bissett. “He brings the industry knowledge, expertise, and responsiveness necessary to meet our clients’ needs and help expand our growing southwest market.”

ED FRIEDRICHS, from page 9

for transport along the way.

Water is an even larger problem because of our inefficient use of this finite element in farming. An example from the TED talk: In California, we grow an enormous amount of alfalfa, one of the most water-intensive crops grown on earth today, which is then shipped to the Middle East and other parts of the world to feed animals. This is not very efficient when you consider that California is suffering from an ongoing draught. And, in fact, farm animals and livestock themselves are extremely resource-intensive and polluting, not just because of water consumption.

Encouragingly, some manufacturers who rely on mined resources for production are taking up the recycling torch. Vehicle manufacturer BMW is one of them. Virtually every element of a BMW can be recycled at the end of its useful life. The materials are captured by type – glass, steel, aluminum, plastics, oil from shock absorbers, tires, etc. – to be reused in future manufacturing by themselves or by other manufacturers.

“It’s time for each of us in our own personal way, and through the businesses we’re a part of, to pursue the path of recycling each material that we mine or use from our planet.”

As architects, engineers, designers, developers, and building materials manufacturers, we can have a profound effect on the usage and preservation of precious natural resources. It takes awareness, ingenuity, vigilance, and holding each other accountable for stewardship in areas where we can make a difference.

One of the most effective programs for recycling everything has been Interface, a carpet manufacturer which, through its CEO, set out to achieve a zero-waste, zero-emissions program when he had his “spear in the chest epiphany” about what his company was doing to the planet. Read more at: bit.ly/2hmBOYO

“I’m on a mission to spread the gospel. I want my grandchildren to have a future as generous in resources that I’ve had. And to have it without a finite end.”

When I built a house for myself in San Francisco in 2001, I set out to do it as sustainably as possible at that time. Every pound of construction waste was recycled through a local firm that carefully sorted and repurposed every scrap of waste. The exterior copper siding was made from 100 percent recycled material and, of course, could be reused if ever dismantled. I incorporated solar electrical generation and a number of other processes and systems to conserve energy or reduce or eliminate waste, using recycled wood products in much of the construction.

I firmly believe we can continue to inhabit this planet for a far longer time than Stephen Hawking suggested recently: bit.ly/1uqUQyi. While several of his suggested reasons for having to vacate would be out of our control, such as an asteroid strike, much of it is coming from our own hands.

It’s time for each of us in our own personal way, and through the businesses we’re a part of, to pursue the path of recycling each material that we mine or use from our planet. I previously cited an example we’re pursuing here in Reno. We’re building flat-deck parking structures that, upon the advent of autonomous, self-driving vehicles which will be prowling the streets instead of occupying a parking stall, could be repurposed as hydroponic gardens, utilizing recycled water from our on-site waste treatment plant and power from solar cells on the roof, to grow the produce needed for restaurants and residents in the district. No trucking or packaging required. I’m on a mission to spread the gospel. I want my grandchildren to have a future as generous in resources that I’ve had. And to have it without a finite end. ▀

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OPINION



Strategies to survive the next recession

If firms employ these operational and financial strategies, their chances of weathering a downturn, regardless of how bad it is, will increase.



June
Jewell

GUEST
SPEAKER

Another recession is coming. It is inevitable. Based on past history, it should be next year. But these things are hard to predict, so all I will commit to at this point is that another dip is coming. And we don't know how bad it will be.

What I do know for sure is that a lot of our clients are not thinking about it too much right now. The A/E industry is doing very well. Our clients are growing and hiring and profitability is up for the first time. But it feels like a bubble to me and that is why I am worried that our clients are not doing everything possible to prepare for the eventual downturn.

“Another recession is coming. It is inevitable. Based on past history, it should be next year.”

So what can you do to prepare for the next recession? I believe there are at least 10 strategies – five listed here – that you can focus on that will make your company financially and operationally stronger, and enable you to survive possible tough economic times ahead – regardless of

whether that is next year or five years from now. Enabling a number of these business management improvements will also help your firm to grow and thrive even if there is not another downturn (but there will be):

- 1) **Get a steady flow of work in the door.** I know this is obvious but it is crucial in good times and bad. And I'm sure you are already working very hard to make this happen. But sometimes when times are good and we have too much work, we lose focus on expanding our client list, diversifying our services and broadening our client base. Improving our seller-doer results through sales training and processes is a great way to improve competitive results.
- 2) **Retain your best people.** Retaining your best staff is critical to firm success, yet I don't think that the industry overall is very innovative in rewarding, developing, and recognizing our top performers. A

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BUSINESS NEWS

EYP ANNOUNCES PLANS TO ADD STANLEY BEAMAN & SEARS

In response to the critical need for better healthcare environments for children, **EYP Inc.**, national leader in sustainability and comprehensive high-performance design, announced its intent to acquire Atlanta-based **Stanley Beaman & Sears**, an award-winning architecture and interior design firm and pioneer in the design of children's hospitals. This union brings an additional specialization to EYP's healthcare practice and specifically addresses the global need for high-quality, innovative pediatric care facilities.

Stanley Beaman & Sears was the first to integrate technology for education and entertainment into children's hospitals to enhance young patients' journey to health and wellness. Sharing EYP's commitment to expertise driven design, Stanley Beaman & Sears has worked on pediatric care facilities for renowned clients, including St. Jude Children's Research Hospital, Nemours Children's Hospital, Children's Healthcare of Atlanta, University of Chicago Comer Children's Hospital, Children's Hospital of New Orleans, and University of Virginia Medical Center, among others. Additionally, the pediatric firm is involved with a range of philanthropic work in support of child health in Africa.

The addition of Stanley Beaman & Sears continues to grow EYP's international healthcare presence. In 2014, EYP acquired

WHR Architects to lead its healthcare practice, which is consistently ranked No.1 in healthcare renovation by *Health Facilities Management Magazine*. The group has seen continuous success and recognition for their deep expertise in evidence-based design, patient-centered care and behavioral healthcare in both new and renovation projects, such as Stamford Hospital, Jersey Shore University Medical Center, Fulton State Psychiatric Hospital, and Denmark's Bispebjerg Somatic Hospital. As the premier pediatric design firm practice in the U.S., Stanley Beaman & Sears complements the expertise of the group and expands EYP's team of experts in healthcare design, client-focused care and biomedical research. The combined resources of WHR Architects and Stanley Beaman & Sears now places EYP among the largest healthcare design practices in the country.

Stanley Beaman & Sears also brings added expertise in experiential graphic design and interior design to EYP, complementing EYP's offerings for the government, higher education, healthcare, science and technology, and corporate industries. Stanley Beaman & Sears has provided these areas of expertise for such clients as Georgia Institute of Technology, University of Virginia, Children's Healthcare of Atlanta, Children's Hospital of Philadelphia, the Georgia Museum of Art, and the new Mercedes Benz Stadium in Atlanta.

"We design for clients who recognize that the fulfillment of their mission is directly linked to the performance of their facilities. For more than 40 years, we have helped those clients – institutions of higher education, federal agencies, corporations, and healthcare providers – advance their vision and goals by providing environments that are informed by deep, relevant knowledge," said Tom Birdsey, AIA, president and CEO of EYP. "EYP and Stanley Beaman & Sears are united by passion and purpose, fueled by innovation, and focused on furthering our clients' missions. Together with Stanley Beaman & Sears, we will continue to advance new methods of delivery that respond to the ever-changing needs of pediatric facilities nationwide. Expertise-driven design is our mission – it's how we help our clients realize their vision."

"It's hard to imagine a better fit for our culture than EYP," said Kimberly Stanley, AIA, principal of Stanley Beaman & Sears, "and the benefits to our clients are outstanding. Both firms see design as a collaborative journey of discovery with our clients. We're excited about having in-house engineers and energy specialists on our project teams as well as being able to offer EYP clients new expertise and services."

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few trends I'm seeing in this area are broadening the net of ownership in the firm, investing in developing future leaders, and improving the performance management process and approach. A more professional approach to employee success will help to keep employees satisfied and committed.

3) Differentiate your firm. Breaking the commoditization trap is something that many A/E firms are struggling with right now. Even though work is plentiful, pricing your services based on the value you offer clients is still a new concept for the industry. By exploring where your firm is better, and saving your clients' money, you can start to put together messaging that is different than your typical competitor.

"By increasing the operational and financial performance of your firm, you can make your firm more valuable, efficient, and better prepared for any economic climate."

4) Explore different strategies. Many firms meet on an annual basis to discuss strategy but either don't explore new options, or fail to implement the ideas from these retreats. Deciding to pursue a new strategy – whether it is a new line of business, client industry, different services or geography, requires sticking with a plan and refusing to pursue work that is not in line with the new strategy. Make sure your go/no-go process

"Whether the next recession is big or small, long or short, having a lean and operationally optimized business will go a long way toward long-term survival and growth."

is in line with your strategy and communicated to your entire team.

5) Improve automation. In the event of another recession, being efficient and automated will give you a competitive advantage and allow you to be leaner. Technology is cheaper than human capital, and optimizing the use of the systems you have already invested in is a great start. Those firms that use their systems, and especially those systems that improve project management, already have a competitive advantage.

By increasing the operational and financial performance of your firm, you can make your firm more valuable, efficient, and better prepared for any economic climate. Whether the next recession is big or small, long or short, having a lean and operationally optimized business will go a long way toward long-term survival and growth. ▀

JUNE JEWELL is president of AEC Business Solutions. Connect with her on LinkedIn and learn more about how to improve your firm's financial performance at aecbusiness.com.