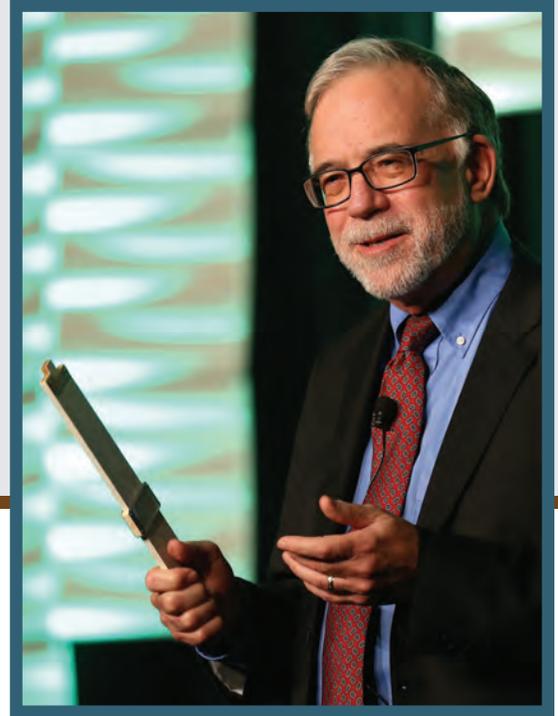


Our ability to shape tomorrow is borne out of our willingness to adapt today. That fundamental truth is the driving force behind our 2016–2017 theme: “Adapt Today to Shape Tomorrow.”



# Adapt Today to Shape Tomorrow

BY TIM WENTZ, P.E., HBDP, PRESIDENT/FELLOW ASHRAE

This is called a slide rule [see photo]. That’s right. A slide rule. This is not just any old slide rule. This is *my* slide rule. The exact one I was required to buy as an incoming freshman at the University of Nebraska in 1971. I will now pause as you calculate my age.

I often take my slide rule to class and show my students. Most don’t know what it is or how to use it. They don’t know that a slide rule was used to perform calculations. Invariably, a student will ask, “Why did the University force you to buy something like that?” The answer? Hand calculators hadn’t been invented yet.

The look on their faces is priceless. Their eyes widen, their jaw goes slack, I can see them thinking “Wow, this guy is really older than dirt.” Actually, I am not *that* old, as you have already calculated.

The first scientific hand calculator was released in 1972 by Hewlett-Packard and cost \$395—over \$2,000 in today’s money, far more than I could afford.

The next year Rockwell came out with a competing model costing only \$195. Now that, I could afford. The impact was transformative. Adapting to this new technology made me a better engineering student. I could quickly investigate different approaches to a single problem, and it dramatically reduced the amount of time I needed for completing my homework.

Today, of course, you can buy a hand-held calculator that's 10 times more powerful for around \$6 or \$1.50 in comparative 1972 dollars.

Young Engineers in ASHRAE (YEA) members, pick up your cell phones. Take a hard look at that technology. Consider this. The very cell phone you are looking at will be your "slide rule" when you reach my age. Think about it. What will that cell phone look like in 30 years? Will it even exist? How will that transform the next generation? Will you be able to adapt to that new technology?

Everyone in the room has their own version of a "slide rule." All of us have had to come face-to-face with the challenges of adaptation.

It's in the power of adapting that lives, organizations, and communities are transformed.

Our ability to shape tomorrow is borne out of our willingness to adapt today. That fundamental truth is the driving force behind our 2016–2017 theme: "Adapt Today to Shape Tomorrow."

How do we shape tomorrow? Our future is in our hands, and we do have the ability to create it. Together, let's consider three directives to guide our Society for the coming year and beyond.

### Directive One

Our first directive is "Adapt ASHRAE resources to help expand member knowledge and develop the visionaries of tomorrow." To accomplish this goal, we'll need to address three initiatives during 2016–2017:

**Initiative 1** Create an "ASHRAE University" educational platform. This educational platform will embrace the entire spectrum of ASHRAE's world-class educational offerings, including the ASHRAE Learning Institute, eLearning, Distinguished Lecturers, webinars and other educational offerings. ASHRAE University will have a one-stop portal so our members can easily locate educational opportunities that focus on their interests coupled with an online dashboard to allow members to track progress toward a professional goal, thus completing the University educational experience. Through this educational platform our members can shape their

future by making professional goals easier to attain and enhancing the Society as a whole. This initiative is under way and is being spearheaded by the Publishing and Education Council, which expects to have the portal up and running later this year.

**Initiative 2** Implement new courses, endorsements and certificates that empower our members with cutting-edge skills that will drive our industry to a higher level of performance. The first new course to be offered is a Consulting Engineering Essentials course. This will be patterned after our HVAC Essentials courses, which has been hugely successful. By tracking progress through a series of related courses, members can then demonstrate their increased technical proficiency by attaining one of our new endorsements in HVAC design or even an ASHRAE MBA. This initiative is also under way within the Publishing and Education Council. We expect the first installment of the Consulting Engineering Essentials course to be available by June 2017.

**Initiative 3** Develop and implement an internship program. Our online internship program will match prospective employers and university students for short-term or part-time engagements that create learning opportunities for the students and cost-effective personnel resources for the employer. We have struggled historically to recruit young men and women into our industry, and a vibrant internship program is one of the best ways to overcome that lingering problem while strengthening our members and their employers. Members Council has been assigned this task, and is already at work on this project. We anticipate the website will be up and running by Jan. 1, 2017.

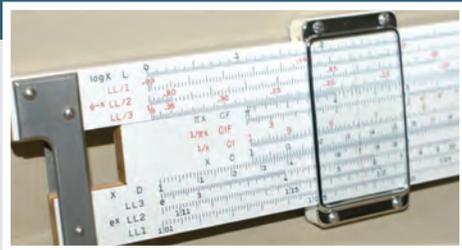
An infusion of interns into our industry would be transformative.

A recent study indicated that 68% of all interns were offered full-time positions and over 85% of those interns accepted the offer.\* Imagine a future where you could target the best and the brightest for your firm and receive an 85% acceptance rate. Students benefit as well. Another study reported that over 95%

\* National Association of Colleges and Employers' (NACE) 2009 Experiential Education Survey.



Tim Wentz, P.E., HBDP,  
ASHRAE President, 2016–17



I OFTEN TAKE MY SLIDE RULE TO CLASS to show my students. Most don't know what it is or how to use it. They don't know that a slide rule was used to perform calculations. Invariably, a student will ask, "Why did the University force you to buy something like that?" The answer? Hand calculators hadn't been invented yet.



The look on their faces is priceless. Their eyes widen, their jaw goes slack,

I can see them thinking "Wow, this guy is really older than dirt."

of employers are looking for college graduates with experience.<sup>†</sup> Students, imagine a future where you can gain experience in our dynamic industry and simultaneously create a resume that makes you more attractive to employers. This is a classic win/win situation for everyone.

My own entrance into the industry came through an internship, of sorts, in our family mechanical contracting business. I worked in the construction industry all through high school and college. I remember my first day at our family's mechanical contracting firm vividly.

### Directive Two

In 1975 I graduated with a degree in mechanical engineering. My father is a third-generation mechanical contractor. I strolled into his office on my first day and asked him what he wanted me to do first. I will never forget his answer. He told me to get in my car and drive 60 miles to Omaha and join the Nebraska Chapter of ASHRAE. I was a bit surprised at this instruction and promptly asked him two questions:

1. What is ASHRAE?
2. Why should I join?

I know our Society often struggles with the question, "Why should I join ASHRAE?" I clearly remember my father's answer to the question. He said, "When you go to an ASHRAE meeting you will find the building owners

we serve, the engineers we work for, the suppliers we buy from, and our competitors, all in the same room.

You need to be in that room."

How do we shape a tomorrow where "you need to be in the room"?

This leads us to our second directive. "Adapt ASHRAE investments to energize chapters and engage members" creates this vision for our future. This directive will also have three initiatives.

**Initiative 1** Create a chapter opportunity fund. The fund, distributed to chapters through the regions, will directly impact members through local empowerment. Chapters will invest funds in a meaningful and expedient way to energize their chapter and improve their communities by demonstrating the impact of ASHRAE. The simple rules and structure of this initiative, including the framework by which the money will be distributed to the regions and out to the chapters, has already been developed by director and regional chairs. The money for this initiative is already in the budget and the program is ready for launch.

**Initiative 2** Form an ASHRAE Leadership Academy. The Leadership Academy will be an annual summit where ASHRAE's up and coming grassroots leaders can meet, share best practices and learn from seasoned leaders. This new generation of chapter leaders will create an environment where "you need to be in the room." This initiative has been assigned to Members Council and, like the other initiatives, is already under way.

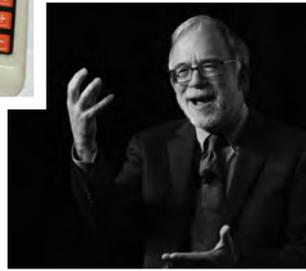
<sup>†</sup> National Association of College and Employers (NACE) 2012 Experiential Education Survey.

*Advertisement formerly in this space.*



**THE FIRST SCIENTIFIC HAND CALCULATOR** was released in 1972 by Hewlett-Packard and cost \$395—over \$2,000 in today's money, far more than I could afford.

The next year Rockwell came out with a competing model costing only \$195. Now that, I could afford. The impact was transformative. Adapting to this new



technology made me a better engineering student. I could quickly investigate different approaches to a single problem, and it dramatically reduced the amount of time I needed for completing my homework.

Today, of course, you can buy a hand-held calculator that's 10 times more powerful for around \$6 or \$1.50 in comparative 1972 dollars.

We expect our first Leadership Academy to be held in Spring 2017.

**Initiative 3** *Adapt Building EQ (Building Energy Quotient) for use by student branches.* We know that our Building EQ program can substantially reduce energy costs for a very small investment. A case study published in the *ASHRAE Journal* demonstrated how the Building EQ program applied to four fire stations saved between 9% and 37% of their energy consumption with an average payback of 4.1 years.

It is a new program, a new way of looking at a building's energy consumption and a new way of reporting that energy consumption to the building owner and its occupants. A presidential ad hoc has already been formed to bring the Building EQ Committee, the Student Activities Committee and the Professional Development Committee together to create the coursework and materials necessary to allow our Student Branches to employ this powerful tool to make a difference in our communities. Not only can we make buildings in our community more efficient, our students learn a valuable skill set in building disclosure and benchmarking. The course has already been run on a pilot basis thanks to the efforts of the Building EQ Committee and our friends at the Indoor Air Quality Association (IAQA), which developed the IEQ segment of the course.

This initiative is well under way and has been assigned to a presidential ad hoc committee, chaired by Mike

Brandemuehl. We expect the course to be available to universities worldwide by January 2017.

These three initiatives are brand new to our Society and adapt our resources, thereby creating a Society where “you need to be in the room.”

It will take courage for ASHRAE to chart this course. It will require courage because it's risky to change, to adapt. I learned this powerful lesson as a young apprentice.

I worked as a pipe insulation apprentice while in high school. I quickly found out that I had two serious deficiencies; I was an apprentice and I was the boss's son. Both flaws were unrecoverable. The crew also learned quickly that I had a strong aversion to heights. Needless to say, if a job appeared that was more than 6 feet off the ground, it was automatically my job. The word “scaffold” and my name were permanently linked in virtually every sentence uttered on that jobsite.

One day was particularly memorable. There was some piping on top of a large built-up air-handling unit that apparently needed my attention. The air-handling unit (AHU) was a good 10 feet tall and there was a 6 foot ladder leaned up against the side. I made the mistake of asking the foreman how I could climb up on top of the AHU with just a 6 foot ladder. The foreman enlightened me as only a good foreman could. “Wentz,” he said, “stop being so pessimistic (social norms preclude me from using the actual term he used). Just climb to the top of the ladder and grab that pipe running along to the top

*Advertisement formerly in this space.*



**MY FATHER IS A THIRD-GENERATION MECHANICAL CONTRACTOR.** I strolled into his office on my first day and asked him what he wanted me to do first. I will never forget his answer. He told me to get in my car and drive 60 miles to Omaha and join the Nebraska Chapter of ASHRAE. I was a bit surprised at this instruction and promptly asked him two questions: What is ASHRAE? Why should I join?

I know our Society often struggles with the question, “Why should I join ASHRAE?” I clearly remember my father’s answer to the question. He said, “When you go to an ASHRAE meeting you will find the building owners we serve, the engineers we work for, the suppliers we buy from, and our competitors, all in the same room. You need to be in that room.”

of the unit and pull yourself up.” Showing my inexperience, I inquired as to how I was to get back down, as I wouldn’t be able to see where I was going as I let myself down. “For goodness sake (highly edited language),” said the foreman, “just grab the same pipe and let yourself down. I will be there to guide your feet to the top of the ladder.”

I did as I was told, in a cold sweat the entire time. As I was letting myself down toward the ladder, I glanced to the side and noted one of the journeymen walking away with my ladder! Panic ensued. How am I to get down? I screamed as calmly as possible. The foreman, ever in charge, told me to stop being a baby. He had carefully removed “most” of the pipe and valves lying about and said I should let go. After all, it wasn’t “that far” down. He did counsel me to make sure I bent my knees when I hit to avoid injury. I hung on that pipe as long as humanly possible and, finally, could hang on no longer. I fell—about 1 inch—onto another ladder the foreman had discreetly placed under me. Of course, every worker on the site immensely enjoyed this hilarious scene. Some had apparently traveled from adjoining states to watch.

Reflecting back, there’s a lesson the foreman taught me that afternoon: we tend to “hang on” to what feels safe as long as possible. When we can’t see the future we don’t know how far we will fall. That can be frightening.

How do we shape tomorrow so we feel empowered to “let go”? This leads us to our third broad directive.

### Directive Three

Our third directive is, “*Adapt ASHRAE technology to produce an immediate, direct benefit to members and society.*”

This directive also has three initiatives.

**Initiative 1** *Create a technology portal linking ASHRAE technical content to members.* Our Society, since 1959, has invested over \$150 million in today’s dollars in research that impacts the HVAC&R industry. But how do we access this wealth of information in a timely, easy fashion? This portal will give members immediate access for streaming existing ASHRAE technical material as either an audiovisual or data download. This ensures our members are always on the cutting edge of technical advances and have immediate access to ASHRAE technology. The Electronic Communication Committee (ECC) has already begun work on this important initiative, and we expect the portal to be unveiled by the end of 2016.

**Initiative 2** *Develop application guides written specifically for practicing professionals.* These “how-to” guides will cover various design and application topics and will be written in plain language by, and for, practicing professionals. This adaptation of ASHRAE technology will particularly benefit our young members, and their firms, and empower them to create a more sustainable world. The Publications Committee will generate the list of application guides by January 2017 with the first application guide to be delivered by June 2017.

*Advertisement formerly in this space.*

**Initiative 3** *Expand access to standards, Handbook content and guidelines through apps, giving members direct, immediate access to ASHRAE applications.* These apps will include standard applications, design guides, technical committee applications and variety of other ASHRAE products, thereby ensuring our members are as productive, efficient and technically accurate as possible. Again,

Publications Committee is already at work on this initiative, with a listing of potential apps available by Sept. 1 and the first app delivered by Oct. 15.

This is how we are going to create a future for our Society where you can “let go,” adapt and grow. Adapting our ever-changing technology such that it transforms our lives, our Society, our communities is one of our core

values. Our core values must never change, for they are the bedrock upon which our Society rests.

So what can you do? How can you plug in? Here are a few ideas:

- You can reach out to young engineers. Hire an intern. Be a mentor for a middle school student, bring a student shadow into your firm in order to ensure the future of our industry.
- You can become more engaged within your local chapters. Attend.
- Volunteer. Make a difference locally in order that ASHRAE can make a difference globally.
- You can make a commitment to adopt ASHRAE's technology to your community, making your community stronger.

We have a long and noble history of adhering to our core values and, at the same time, adapting to the changes that surround us. We can do this. We will do this. Working together, as we have for the past 122 years, we can shape tomorrow.

In 1971 this slide rule served me well. I'm glad I had it. To be honest it felt risky when I put it down in order to pick up that newfangled handheld calculator.

Looking back, the greater risk was not putting the slide rule down and not being willing to adapt.

So it is for us here at ASHRAE today.

The greatest risk to our future success is our resistance to change. We must adapt today to shape tomorrow.

Thank you. ■

*Advertisement formerly in this space.*