



# 6 WAYS

for Energy, Chemical and Oil & Gas Companies  
to Avert the Impending **WORKFORCE CRISIS**





## ARE YOU READY FOR HALF YOUR WORKFORCE TO RETIRE?

As many as half of the skilled workers at energy, chemical and oil & gas companies are heading towards retirement — and not nearly enough new hires are available to replace them. The majority of the retiring workers are also in senior positions, which means a huge loss of institutional memory and knowledge of proprietary practices. The impending crisis could be crippling to your company if you don't take steps to prevent it now.

### WE'RE HERE TO HELP

We've researched what the top companies are doing to address this issue, as well as what global organizations focused on these industries recommend. We've combined what we've learned with our own experience and come up with a list of the top 6 things you could do to help your company come out ahead.



of the electric utility workforce will retire in the following 10 years<sup>1</sup>

<sup>1</sup> The Council of State Governments, Work Force Development in the Electric Utility Sector, February 2010



# THE NUMBERS

## THE KNOWLEDGE DRAIN

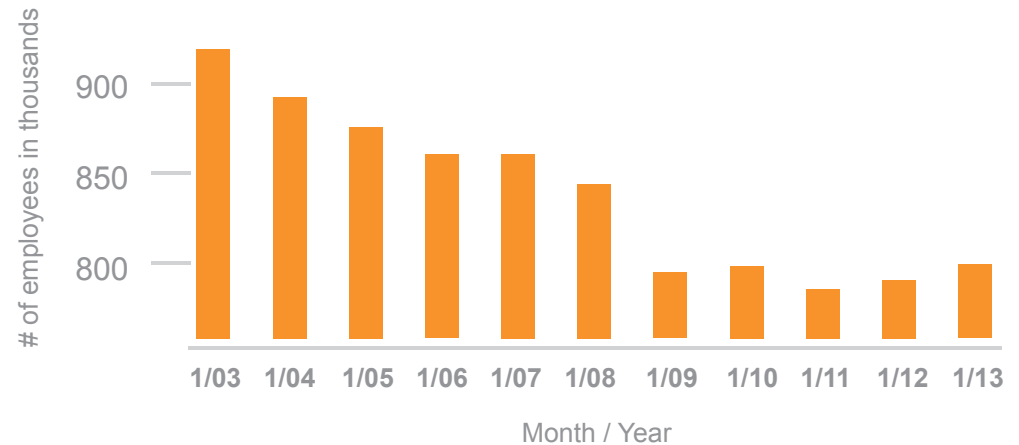
Let's look at some of the numbers. In 2010, the U.S. Bureau of Labor Statistics estimated that half of the electric utility workforce would retire in the following 10 years.<sup>1</sup> And that prediction has indeed been playing itself out. A 2012 study by PricewaterhouseCoopers found that 20% of power and utilities employees were eligible for retirement that year, and 39% would be eligible over the following 5 years.<sup>2</sup> That should be alarming to any energy company.

The picture looks very similar for the chemical sector, where employment has been steadily falling over the last 10 years, even though the industry itself has not significantly shrunk. (see right)

Oil & gas is struggling, too. In a global survey from Q1 of this year, 44% of oil & gas companies in the Americas said skill shortages are the biggest threat to their industry — higher than capital costs, labor costs, or even economic stability concerns.<sup>3</sup> This is partly due to training issues, with many of these companies lamenting the lack of quality candidates and skilled employees to train them. However, as more and more veteran employees retire, this will only become a bigger problem.

<sup>1</sup> The Council of State Governments, Work Force Development in the Electric Utility Sector, February 2010  
<sup>2</sup> PricewaterhouseCoopers, Power and Utilities Changing Workforce, 2012  
<sup>3</sup> OilCareers.com and Air Energi, Workforce Survey Q1: The Premier Global Oil & Gas Workforce Survey 2014

### CHEMICAL SECTOR EMPLOYMENT



Source: U.S. Bureau of Labor Statistics



As an industry, we are at a critical juncture where we are working to build additional capacity, integrate renewable energy sources, address carbon and other environmental concerns, rebuild an aging infrastructure, and make the grid smarter... However, these challenges are occurring as many faculty in university power engineering programs are reaching retirement, retirement rates in the industry are growing, and there is a lack of new recruits entering the industry. ”

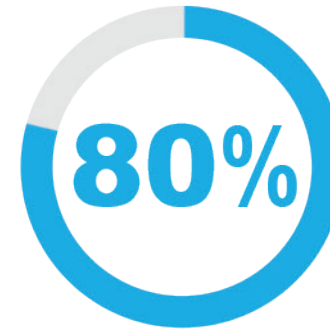
– **WANDA REDER**

President, IEEE Power & Energy Society  
Chair, Executive Council, Power and Energy Engineering Collaborative



## THE MILLENNIAL MINDSET SHIFT

Another workforce issue that all companies are now facing, regardless of industry, is that today's graduates aren't all that interested in long-term employment. The younger generation simply doesn't want to stay with the same employer for long. It's become perfectly acceptable to have a resume full of 3-year stints at a variety of companies. This makes many employers cautious about investing in training — which in turn only exacerbates the situation.



## OF MILLENNIALS

(born between 1977-1997)

expect to stay in a job for  
less than 3 years <sup>4</sup>

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## 25-34

year olds stay with one company  
for an average of just 3.2 years <sup>5</sup>

<sup>4</sup> Future Workplace, Multiple Generations @ Work, 2012

<sup>5</sup> U.S. Bureau of Labor Statistics, Employee Tenure Summary, 2012





## 6 THINGS YOU CAN DO TO ENSURE YOUR COMPANY SURVIVES THE CRISIS

By now it's become clear that there is a major problem looming for energy, chemical and oil & gas companies. All hope is not lost, but it will take some effort on your part to avert a crisis. Here are our top 6 recommendations for what you can do.

### 1 ESTABLISH AN ONGOING TRAINING PROGRAM

This has never been more important than today, when younger employees don't plan to stay with one company for an extended period of time. Instead of letting this deter you from investing resources in training though, think of this as an opportunity to hire employees with a broader range of experience and the kind of mindset that welcomes new challenges and opportunities.

With employees coming and leaving regularly, it's no longer practical to train new hires on an ad-hoc basis. You need to establish a thought-out, ongoing training plan that will set up new employees for success, regardless of when they come into your company or how long they plan to stay.

If you can show that you care about empowering new hires to succeed and have a plan in place for it, your company will also be more attractive to prospective employees — which is crucial in an increasingly competitive hiring environment.

### 2 PARTNER WITH COLLEGES AND UNIVERSITIES

Every year, there are more job openings for engineers than there are graduates, and schools can't fix that on their own. The high rate of retirement applies not just to your employees, but also to knowledgeable faculty members — which means there are fewer people to inspire and teach younger generations. So part of that job now falls to you.

Take advantage of any opportunity to inspire and build relationships with students in your field. The earlier you can establish relationships with prospective hires, the better. Consider coming into classes to talk about what your company does and offering mentoring opportunities to those who are interested. If you have the budget for it, fund scholarships and research support.

You can also establish a direct funnel for future employees by providing internships and part-time job opportunities. This will expose your company to prospects early on, as well as teach them the skills they need to work at your company once they graduate.



“

At our facility in Baytown, TX...a decade ago, we would receive about 2,000 applicants for 20 to 30 jobs. Today, we get about 250 applicants. Filtering through those applicants leaves us with about 40 true candidates, a monumental drop in qualified candidates by any stretch...

So we've addressed the problem by creating the Baytown Manufacturing Internship Program with local community colleges to train full-time process technology operators for the plant. Since it launched in 2011, the program has had 54 production technician internship positions with a 90 percent intern-to-hire rate. ”

– **JERRY MACCLEARY**

President, NAFTA Region, Bayer MaterialScience



### 3 LEVERAGE EXISTING TALENT

As you look towards the future, don't forget about the talented employees you will still have. Consider how they can help you prepare for their departure. For example, you could partner new employees with experienced veterans for mentoring and on-the-job training. Or you could bring back retired engineers as consultants to ensure that institutional knowledge doesn't get lost. Involve these people in the creation of your training programs and resources. After all, they're the ones who know the most about your business.

### 4 RETHINK YOUR BENEFITS AND PEOPLE MANAGEMENT POLICIES

As the hiring landscape gets more and more competitive, you may need to give some thought to your company's benefits and perks. This doesn't always mean raising salaries, since many employees (especially in younger generations) are increasingly interested in non-monetary benefits.

For example, *Control Engineering* recently surveyed engineers in a variety of industries and found that the top two factors responsible for their workplace satisfaction are a "feeling of accomplishment" and "technical challenge."<sup>6</sup> (see right)

Survey question asked of engineers in various industries:

**What 3 factors have the greatest impact on satisfaction with your current position?**



- 
- |   |  |
|---|--|
| <b>28%</b> Relationship with colleagues | <b>8%</b> Relationship with subordinates                                   |
| <b>22%</b> Location                     | <b>7%</b> Leading a team   |
| <b>21%</b> Job security                 | <b>5%</b> Managing people  |
| <b>21%</b> Relationship with boss       | <b>5%</b> Company size   |
| <b>18%</b> Feeling of recognition       | <b>3%</b> Travel   |
| <b>16%</b> Benefits                     | <b>2%</b> Physical or ergonomic environment at work (positive or negative) |
| <b>12%</b> Advancement opportunity      | <b>2%</b> Other  |
| <b>12%</b> Workload                     |  |
| <b>10%</b> Company's financial health   |  |

<sup>6</sup> *Control Engineering*, Salary and Career Survey, 2014





## 5 INVEST IN AUTOMATED AND SMART DEVICES

The longer you retain old, antiquated equipment, the harder it will be to find employees who are familiar with it and can maintain it. It's becoming increasingly impractical and inefficient to hold on to legacy products and processes — especially when an investment in new technologies could pay for itself in a very short amount of time by reducing your maintenance costs and resource demands.

Innovation today is all about ease of use, which is why the newest technologies require less and less specialized knowledge to install and manage — making it easy to train even your newest employees on them. And the latest process equipment now comes with advanced monitoring capabilities, ensuring optimal performance and reducing the need for calibration services.

Not only that, but as technologies make processes increasingly automated, you're less likely to burn out your employees with repetitive, routine work. And you want to make sure you hold on to your brightest minds!

## 6 ASK FOR MORE FROM YOUR VENDORS

Certain suppliers offer training resources for their products and technologies. This could be in the form of printed materials, online courses, or support services — all of which are helpful elements to integrate into your ongoing internal training program. Some manufacturers can even monitor and maintain your equipment remotely, so you don't have to. All this reduces the burden on you to be the expert on everything, as well as the worry that if your internal experts leave, their knowledge is lost forever.



## HOW WE CAN HELP YOU AVOID THE WORKFORCE CRISIS

Micro Motion is recognized around the world for our industry-leading flow, density and viscosity meters. Here's why our products are the perfect choice for both new and veteran employees, especially in an increasingly challenging workforce environment:

### MEASUREMENT CONFIDENCE

Micro Motion products provide the most accurate mass flow and density measurement available today — and continue to do so over years of intense use.

### INCREDIBLE DURABILITY

Our Coriolis meters are designed for the real demands of any environment. They require no routine maintenance and eliminate costly repairs and trips to the field, as well as the need for specialized maintenance teams.

### TOTAL FLEXIBILITY

We have a proven solution for almost every Coriolis measurement application. Our industry-leading design accommodates the widest range of process conditions — from extreme temperatures, to multiphase flow tolerance for complex fluids.

### EASE OF USE

Ask any Micro Motion customer and they'll tell you how worry-free our products are. They're incredibly easy to install, use and maintain — making them perfect for today's evolving workforce.

### ADVANCED DIAGNOSTICS

Our products come with built-in diagnostic capabilities that make it easy for you to track and optimize process performance. On top of that, our Smart Meter Verification tool monitors the health of your Micro Motion meters in real time, eliminating the need for extensive calibration services.

### EXPERTISE & SUPPORT

Our team members around the globe know their industries and products inside and out. With us, you'll always have access to leading support teams and training resources, as well as local experts ready to roll up their sleeves when you need help. We also offer remote asset monitoring to make your life even easier.



# MEASUREMENT TELLS A STORY. MICRO MOTION MAKES IT POSSIBLE.

Confidence in your measurement is key to your process. That's why we believe that the integrity behind your measurement is critical.

We start with the pursuit of the ultimate real world performance — even in the most critical and complex applications. And we're committed to making your whole experience easier with our broad range of simple and scalable solutions.

With the Emerson Micro Motion team, you get more than industry-leading performance of our Coriolis and Density meters. You also get the dedication of our people, our process and the pursuit of delivering measurement confidence in everything we do.

Get the full story at [whymicromotion.com](http://whymicromotion.com)

