

Increasing diversity in automation

According to those on the front lines, political correctness isn't required or desired, fairness is sufficient.

There have been many articles written on how and why we should increase the number of individuals from minority groups in the field of automation. Most reflect the opinions of diversity experts or human resources professionals, and some are politically motivated.

This article is different because it gives the opinions of minority participants actively working in the field of automation. Their experiences are a snapshot of the reality they and their peers face, and are thus of great interest due to their validity. Although all of the participants in this article represent minority groups, their input talks more about the profession in general because they don't define themselves just by their minority status, but also as a part of the larger group of automation professionals. As such, they aren't asking for any special treatment, just fairness.

Keep it fair



Mario Cash

"Leaders must lose every notion of social justice, political correctness, and quota-based bias," says Mario Cash, a Senior Risk & Compliance Engineer at Eastman Kodak Company. "They must instead appreciate that the people they desire to reach in the field of automation are intelligent and capable individuals. To think

otherwise speaks more negatively about the automation profession than minorities in automation. Minorities are closely networked amongst themselves and are acutely aware of the best and worst places to work, and they will have the greatest effect on attracting or repelling others. Do not concern yourself with being politically correct when being correct will do just fine," adds Cash.

"Be intellectually honest with the status of your organization's existing culture—and with the signals,

behaviors, and attitudes of people holding positional authority. Many leaders and managers cannot tolerate a diversity of ideas, much less a diversity of the people from whom ideas may come. Broken attitudes and behaviors in leaders and managers are nothing more than defective parts in need of repair," observes Cash.

"Make space at the table for who you want sitting there. You may have to make adjustments that are seen and unseen. Diversity for the sake of diversity is unintelligent, ineffective, needless, and costly. Any organization smart enough to consistently bring the best and brightest talent to the corporate cause without regard for an individual's social identity will consistently win in the marketplace. Adopt diversity as a strategic and competitive advantage for your company's growth and bottom-line, and you'll never have to seek it again," according to Cash.

Rhonda Pelton is a Process Automation Lead at the Engineering Solutions Technology Center with Dow Chemical, and she voices her views. "People are attracted to and stay where they are respected and valued. Companies creating and maintaining a genuine culture of respect and value for people will attract and retain the best talent. The company culture is reflective of the leadership. The addition of diversity in leadership teams in order that they may participate in the development of the strategies for talent identification and retention that best align with the company goals is the first and essential step in growing minority participation in automation," says Pelton.



Rhonda Pelton

Keith Thomas, an Electrical Designer at CRB Consulting Engineers, sums up the participants' outlook on fairness. "The key is to be fair. Treat all



Keith Thomas

employees the same so it is clear the merit of their work is the main component of employment.”

Fairness is the goal, but the first step along the way is getting more young people from minority groups interested in automation at an early age.

Seeing the light

Early interest in automation is sparked in different and unique ways. “I had a family member who was an electrical engineer, and his first job opportunity was with Boeing. He helped design instrument controls for defense projects. It really intrigued me,” relates Thomas.

Pelton’s path was more circuitous. “My interest in a career in science was first sparked by my high school chemistry teacher, and I now have a degree in chemical engineering. I enjoyed science, but I was not really aware of career options outside of teaching and research. As I began to investigate careers in science, I discovered that there were many interesting options. My interest in automation, in particular, grew from exposure to automation and process control as a college student. Through several internships while I was a student, I was able to gain experience and learn more about the application of the knowledge that I was gaining to specific fields such as automation,” explains Pelton.

“I first became interested in a technical career as a curious youth just trying to figure out how the world works and why things were the way they appeared.”

—Mario Cash

Cash grew up in a different era, and his route was correspondingly quite interesting.

“I had an active imagination,” says Cash, “which was often an escape for me from not the best of socio-economic upbringings. I finished my primary education at a vocational high school, majoring in the electrical field and drafting. It was there where I was first formally challenged to approach my thinking and reasoning empirically as well as conceptually,” says Cash.

“My love for the field of automation was developed through

the changing technologies of process control instrumentation, and my project work in the field as an electrical technologist. Instrumentation was rapidly migrating from pneumatics to fully electrical and hybrid technical solutions. I acquired much hands-on experience working in large-scale chemical batch process operations. Over time I did have an excellent mentor, the late Dick Weinzierl, may he rest in peace. He helped me tremendously to develop as an engineer and as a specialist,” continues Cash.

“Mr. Weinzierl encouraged me, taught me, and challenged me to not only do good science, but to also connect with ISA for professional growth and to promote the common good in our field. In my local section of ISA I connected with amazing people such as Tom Lesio, a section president at the time, and Dawn Schweitzer. I subsequently became section president and continued to ascend to Society leadership, eventually serving on the Executive Board and Executive Committee,” concludes Cash.

After their respective introductions to automation, what do our respondents find the most challenging and rewarding about their chosen profession?

Challenges to overcome

Members of minority groups have often had to fight for societal change, and thus have a unique viewpoint when it comes to overcoming inertia within organizations. “The most challenging aspect of working in automation is creating a space for innovation and advancement of technology to the next level. The number of automation professionals is limited, so we’re often constrained to keeping facilities running and producing. In this environment, the human capital is not available, and there is not much tolerance for the risk required for innovation,” observes Pelton.

Cash has similar concerns. “Some automation professionals tend to avoid adopting new technologies, often using legacy cultures and attitudes as their excuse. There are strategic considerations to be made where cost and installed base maintenance are real issues, but far too many people will use any excuse to resist change. Embracing even the idea of change would save many businesses—many of which are nothing more than groups of people at their core—a tremendous amount of heartache,” he notes.

Challenges are substantial, but overcoming them results in rewards, as our respondents relate.

Resulting Rewards

Each respondent was very aware of the contribution made to society by automation, and all gained tremendous fulfillment from being a part of this effort. “The most rewarding aspect of working in the field of automation is knowing you’re helping increase efficiency, productivity, and most of all safety. I feel automation is the glue of manufacturing,” says Thomas.

Cash shares his feelings on the subject. “The thing I find most rewarding is simply having the ability to help. When I think about helping, I take a 360-degree view of it, meaning that when processes run and products are made and sold—businesses are made profitable, people are employed, and quality of life improves for the masses. Having the ability to solve complex problems and deliver safe, cost-effective, and creative solutions gives me a great deal of personal excitement and satisfaction,” he says.

Pelton chimes in with her point of view. “The most rewarding aspect of working in automation is being able to make essential tasks safer and more efficient. The chemical and petroleum industries are responsible for producing products that make our world a better place. It makes me proud to be a small part of that process by making sure that production facilities are operating safely and consistently producing products to meet the needs of families all around the world,” she says.

So how can we get more young people, regardless of background, interested in automation?

“Providing students at all levels with exposure to automation and its impact on their lives is the first step to building interest in automation careers.”

—Rhonda Pelton

Start ‘em young

“At the lower levels exposure can be demonstrations of the automation applications students use daily,” says Pelton.

“At the higher levels, this exposure comes through training on foundational principles, opportunities for hands-on application, practical experience in laboratories, internships, and apprenticeships,” observes Pelton.

“We have to be creative. It’s uplifting when instructors are in tune with students and know how to make hard subject matter fun.”

—Keith Thomas

Thomas shares his ideas on the topic. “Find out some hobbies or things they enjoy doing, and see how the field of automation plays a part. For instance, in auto racing the cars’ diagnostics are monitored and controlled by the engineering team using an aspect of automation. Show kids how their cell phone can act as a controller for home use or toys.

And Cash wraps up our respondents’ views on the subject. “Many minorities, no matter what age, only need to be shown how the systems of automation are at work in their ordinary everyday life and interactions with others. Most minorities adopt an empirical learning style when barriers exist via mainstream systems. As such, when teaching these youths I tend to find much success using parables,” says Cash.

Whether someone is a member of a minority group or not, our respondents feel there are many ways to get more people of all ages interested in automation. Their experiences in automation have been very positive, and they look forward to welcoming new participants into the field.



The Automation Federation (www.automationfederation.org) is a global umbrella organization of sixteen (16) member organizations and seven working groups focused on advancing the science of automation technologies and developing the automation workforce of the future.



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