



Build the Pipeline

Companies serious about building future bench strength are starting their recruiting much earlier—in elementary and high school.



Chief Executive



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It's a natural reaction, when crisis hits, to put longer term strategic planning on hold,

whether intentionally or unintentionally. Few crises have been as all-consuming as the Covid-19 pandemic and the chaos it has wrought on the economy, and, consequently, the labor pool. But even as companies cope with those short-term challenges, if they hope to be competitive in the future, they also must focus on pipeline development. Complacency now can easily put a company in a weakened position once the economy rebounds and resumes at full throttle.

Regardless of current employment levels, the gap in science, technology, engineering and math (STEM) skills is real—and growing—which is why U.S. companies serious about acquiring those skills are beginning their search much earlier. Lockheed Martin's Orlando-based Missiles and Fire Control (MFC) division, for example, sees college recruiting as just one piece of the talent puzzle, says the company's vice president of human resources, Monet Nathaniel, who estimates that she spends about 30 percent of her time thinking about pipeline strategy and how to deal with "a drastic shortage of critical skills."

"Once you reach the college level, a lot of career decisions have been made," she says. "So we've really been focusing our efforts on how do we start shaping students at that K-12 level, helping them understand the fields they have an opportunity to go into, and what a career path might look like in the STEM field."

PUBLIC-PRIVATE PARTNERSHIP A MUST

Lockheed builds relationships with local schools in Central Florida, including those in Osceola, Seminole and Orange Counties. Engineers advise teachers on curriculum development and visit classes for special presentations on robotics, science experiments and other engaging activities. "We have a two-pronged approach where we want to provide opportunities for our engineers to reach out into the community, and doing that allows us to also educate the students," she says, noting that, over the years, some K-12 students who have participated in Lockheed Martin's programs eventually came in as interns during college and were then hired after graduation.

The Lockheed Martin STEM Scholarship, launched in 2019, awards up to \$10,000 in renewable funds to current or prospective undergraduate engineering and computer science majors. This year, the Lockheed Martin Vocational Scholarship was launched to provide up to \$6,600 for degrees at accredited vocational-technical schools to prepare students for careers in technology and/or advanced manufacturing that do not require a bachelor's or advanced degree.



Ten local high school students showcase "golden tickets" guaranteeing them internship interviews with Electronic Arts (EA) while pursuing STEAM (science, technology, engineering, arts and math) subjects in college. Students received the certificates following completion of the first-ever "Get in the Game," July 9-13, 2018, an intensive one-week program at the EA Tiburon studio in Orlando for local high school girls showcasing coding lessons, hands-on demonstrations and presentations about career opportunities in video game development. Photo credit: Preston Mack / Electronic Arts.

Front cover: Photo courtesy of Lockheed Martin

"We still need to reach more women and minorities," says Nathaniel, whose daughter learned through the company's "Take Your Child To Work Day" that engineering is an option for her. "She thought science and math was just for boys. Then she had an opportunity to connect with some of our female engineers and that changed."

Electronic Arts (EA), a leader in digital interactive entertainment, also sees the dearth of women in STEM careers as both a problem and a potential opportunity. Two years ago, the company launched "Get in the Game," a one-week, hands-on, intensive summer camp at its Orlando studio, where high school girls learn what it takes to be a game developer. Each year, students from the prior year are invited back for the next level. "So, it's not just, come to camp and then leave," says Daryl Holt, general manager, EA SPORTS Orlando, Austin and Madrid. "You start a relationship with us as a company and with the mentors you work with. That's why we created it, so we could start to build this pipeline of interaction that evolves year over year." Participants selected for the program get a guaranteed internship interview once they are in college.

They already have one solid lead. Ruby Nunez, a high school senior who attended the camp for two years, has previously experienced the dearth of female STEM students and was pleasantly surprised to see so many other girls with her level of interest. "It was really eye opening to be able to see all these girls interested in the same thing that I do—and with the same passion that I do," she says, adding that she has a new understanding of what a job in the field might entail. "Before, when I thought about a computer

science job, I always imagined somebody sitting on their laptop, programming for 10 hours, but it's not like that—they actually collaborate with other people to fix bugs in the code." Now that she's been through the program and met and worked with EA employees, she can picture herself working there, she says. "I hope to come back after graduation."

Nathaniel and Holt agree that companies can't leave it to schools to fill their pipelines. At a minimum, the private sector must partner with public education to ensure the talent will be there. One such collaboration is NeoCity Academy, a public high school in the Osceola County district that aims to partner with STEM-related companies to teach real-world applications for math, science and technology, with a focus on "inquiry-driven learning," says Principal Michael Meechin. "It's really about pushing kids to the highest level of learning during their high school ages, so that when they tackle a curriculum program at University of Florida or Cal Tech or MIT, etc., no matter what's thrown their way, they will have a really solid problem-solving foundation."

One university, Florida Polytechnic, is now helping out with that preparation with a new initiative designed to provide a virtual network of trained learning assistants. More than a dozen Florida Poly students are working as virtual tutors to help high school students stay on track in their studies, specifically in calculus and other STEM disciplines. "When I was in high school, I didn't have a university student help me understand the relevance of calculus and the impact I could make in engineering," said Lillian Frometa, an electrical engineering major from Miami. "I think more would select STEM majors if these connections are made."

THE RISING TIDE LIFTS ALL

Nathaniel acknowledges that by investing in the talent pipeline this far out, she has no way of knowing what kind of return Lock-

heed will see from it. "But we're interested in touching as many students as we can to help educate them about opportunities in the STEM field because when you think about technology and how we continue to evolve as a nation, we've got to ensure we're turning over every stone and optimizing all the talent that's out there," she says.

Stephanie McKinney, Vice President of HR at Siemens Energy, agrees. "There are no guarantees with any measure of hire — whether it's investing early in careers or more experienced hires," she says. "Siemens has a strong history of investing early and we have seen the return on our investment with respect to retention, deep knowledge and experience across multiple functions and businesses."

McKinney notes that raising the profile of the sector overall is critical to a successful talent strategy for individual companies like Siemens Energy. "Sometimes the more glamorous businesses catch the attention of younger talent, so it's even more important for our type of industry to tell our compelling story and share how people can make a real impact on society. We truly subscribe to the philosophy to not focus on the short-term view, but to invest in developing our talent for the long term," she says, adding that "our leadership is highly committed and motivated to continue investing in these areas."

Looking out 10 years into the future, she says, "the majority of our workforce will primarily be a new generation. We have to focus on our industry attractiveness – having a strong vision and explicit purpose will be key. We will need to prove our progress with environmental topics to be a company of choice, engaging new talent through our purpose."

McKinney does not see a STEM education crisis brewing in the U.S. "I do see challenges—and also opportunities," she says. "The real issue is not just the growing demand for STEM-educat-

NeoCity is a 500-acre technology district located in Osceola County, Florida, inspired by an ethos of collaboration and designed to transform the way we ideate, create and innovate. The district is home to a state-of-the-art microelectronics fabrication facility, as well as NeoCity Academy, an inquiry-driven, project-based STEM magnet high school. NeoCity Academy currently has 323 students enrolled and continues to grow its enrollment and curriculum to support the burgeoning tech district.



ed employees, but the drastic issue of STEM graduates returning to countries outside of the U.S., plus women graduates, and especially women of color, being under-represented in STEM roles and fields of study.”

In spite of those challenges, opportunities abound to deepen relationships with educational organizations and engage with students to provide insights to careers within the industry. “Relationships with professors and heads of technical study programs also give us a role in helping to shape curriculum and form internship programs that benefit us, the schools and the students,” she says.

Companies have a unique opportunity to engage and partner with educational organizations earlier, in part to ensure that students are being taught the skills they will actually need in the working world, says McKinney. “We have seen this work well with higher education in universities through deep relationships that we have invested over the years. We have wonderful colleges in our community, and Siemens has enjoyed long-standing partnerships with UCF, Valencia College, and other nearby technical schools. The broad partnerships we’ve had with these institutions has served all stakeholders well.”

For Siemens, tapping into the education pipeline ear-



Apopka High School’s Ruby Nunez showcases her coding skills to professionals at the Electronic Arts Tiburon studio in Orlando, during “Get in the Game,” an intensive one-week program for local high school girls that explored the applications of STEAM (science, technology, engineering, arts and math) in video game development, July 9-13, 2018. Photo credit: Preston Mack / Electronic Arts

ly just makes sense. “The earlier we can engage younger future leaders, the better,” she says. “I think back to high school, and it was very difficult to imagine all of the possible career choices. Corporations were certainly not engaging as early or as broadly during as they are today. Engaging early and sharing possible career choices within an industry where they probably are not too familiar has lasting benefits.”

Chief Executive

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