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# Bill Coaker Is Looking Forward to the Future of AI

*The San Francisco CIO shares his vision for a better world through technology.*



Art by Peter Olschinsky

Artificial intelligence (AI) spooks some people, with visions of how robots will take over the world, or at least their jobs. But not Bill Coaker. The chief investment officer of the \$24.3 billion [San Francisco Employees' Retirement System](#) thinks AI promises a better tomorrow.

During his 30-minute keynote address at this year's annual [Pension Bridge](#) conference in San Francisco, Coaker sketched out how AI and other scientific advances will improve the lives of living, breathing humans, such as in health care.

Not that there won't be disruption to the workplace from AI, although he said he believes the result be improved jobs for the displaced. "No question, many of our jobs as we currently know them are going to go away over the next 20, 30 years. But they will be replaced by much, much better jobs," he said, adding that these new jobs will be where "people have an opportunity to create and to interact."

Coaker, who lives a short drive away from America's tech center, Silicon Valley, predicts that man and machine will coexist side-by-side in ways the science fiction visionary Isaac Asimov couldn't imagine. Here, the bots will run the service industry and thus permit "more purposeful" pursuits for humans. "Let machines do the work and humanize jobs, the mundane to the machines and purpose to the people," he said, quoting Ron Hancock of Deloitte.

## **Health-Tech's Promise**

The man whose car is parked "98% of the time" can't wait until all vehicles are self-driving. And his trust in tech extends to life sciences.

“I grew up in a community of doctors and patient care,” said Coaker, whose father was a doctor. His mother worked alongside him. Although Coaker never followed his parents’ career path, as an investment professional he became interested in life sciences in 1993, a time he refers as “the first golden age of biotech.”

“I’ve seen this evolve now over the course of my lifetime and I want to convey that research now is incredibly poised to bring new therapies that will significantly improve the human experience both to save lives and improve the quality of life,” the CIO said.

Coaker glows when he speaks about biomedical discoveries and gene editing programs such as Clustered Regularly Interspaced Short Palindromic Repeats—or CRISPR—to cure diseases and create stronger, healthier humans.

“The most fascinating aspects of life sciences are the recent breakthroughs to treat serious disease and that the industry is poised to do much more than has been done thus far,” he told CIO.

### **Bio-Challenges and Insights**

Life sciences is a touchy subject for those who see rapidly advancing technology as scary. Researchers from Tel Aviv University in Israel are working on 3D printing of human hearts, using cells taken from fatty tissue, in hopes of employing these artificial organs for transplants one day. In November, Chinese scientist He Jiankui reportedly created the world’s first gene-edited babies, twin girls resistant to HIV. This procedure still isn’t perfected, and many opponents are concerned that scientists are using the technology to play God, or give additional advantages to the children of the wealthy.

CRISPR, which got a lot of publicity from a “60 Minutes” episode last year, then ran into some trouble. Some critics claim that gene editing carries the risk of deleting and rearranging DNA in harmful ways, such as inadvertently triggering cancer. As a result, the Swiss company that makes the device, CRISPR Therapeutics, saw its stock fall from \$73 per share a year ago to \$23 in December. It is slowly recovering, now sitting at \$40.

Regardless, Coaker’s faith in the sector and CRISPR is unwavering. “For investors seeking to align their investments with positive social impact while also achieving high returns, the life sciences have historically achieved both, and I believe they will continue to do so in the future,” he said.

He noted that the company's obstacles are a sometimes-volatile stock market, impatience over the long lead times to develop successful therapies, and its quick expansion. Publicly traded only since late 2016, the firm now has a market value of a bit more than \$2 billion.

One plus is that advanced life sciences have become increasingly cheaper over the past decade. In 2001, genome sequencing was \$100 million per gene. Due to the explosion of research in the field, the price tag now is only about \$1,000 per genome. The cheaper costs, Coaker said, are "creating a whole new wave of research possible, leading to innovation and new therapies."

Biotherapeutics are fortunate in that the Food and Drug Administration (FDA) wants take a more "flexible and risk-based" approach toward gene therapy. Indeed, the FDA has stepped up approval of more drugs and therapies.

"Medical science is at the dawn of a new era in bringing many new therapies that save lives and improve the quality of life for hundreds of millions of people," Coaker said.

### Cost per Raw Megabase of DNA Sequence

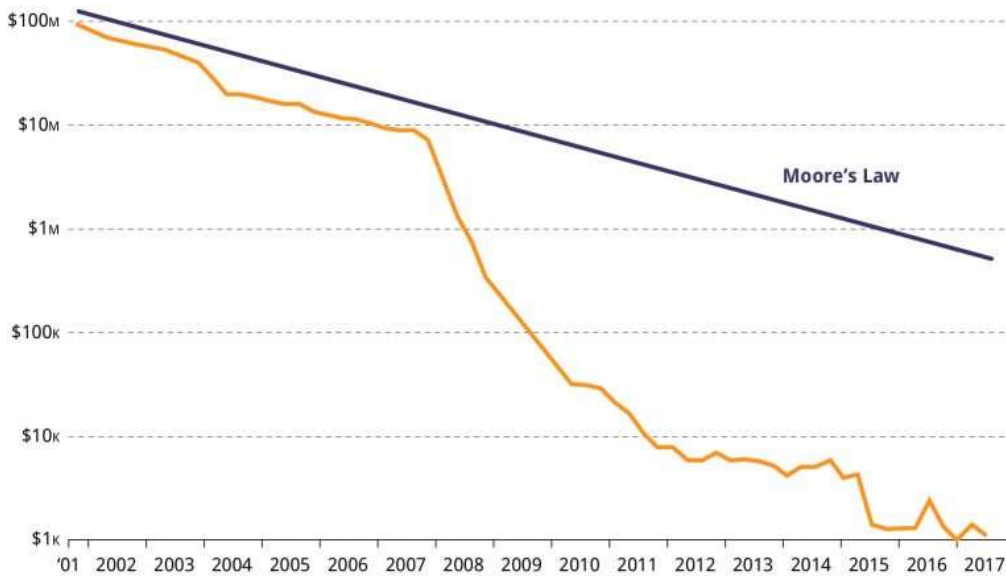
*In US dollars*



Source: Genome.gov

## Cost per Genome

In US dollars



Source: Genome.gov

## Where AI's Puck is Going and How to Get There

Coaker is hardly a starry-eyed tech fan, though. He recognizes that some areas, such as privacy, are eroded by technology.

“The next challenge is that the coming wave of new innovations will be very impactful on existing jobs,” he said. “A political and populist backlash as well as changes in tax and regulatory policies could slow the pace of innovation as well as the improvements in transportation, energy, education, life sciences, agriculture, and more, that technology and innovation are poised bring to society over the next 10 to 30 years.”

To fix this, Coaker said “aspirational and visionary” leadership must come from government officials, business leaders, and philanthropists. “Great leadership will help guide people from the anxiety that change will negatively impact their economic security and guide the human experience to our next great plateau, to our third wave from the agriculture era to the Industrial Revolution to the era of science, technology, and innovation,” he said.

“If we have great leadership that transitions us to our next great plateau, we will achieve amazing positive transformations in transportation, health care, education, energy, agriculture, and every aspect of how we work and live and enjoy our lives,” said Coaker.

By [Chris Butera](#)