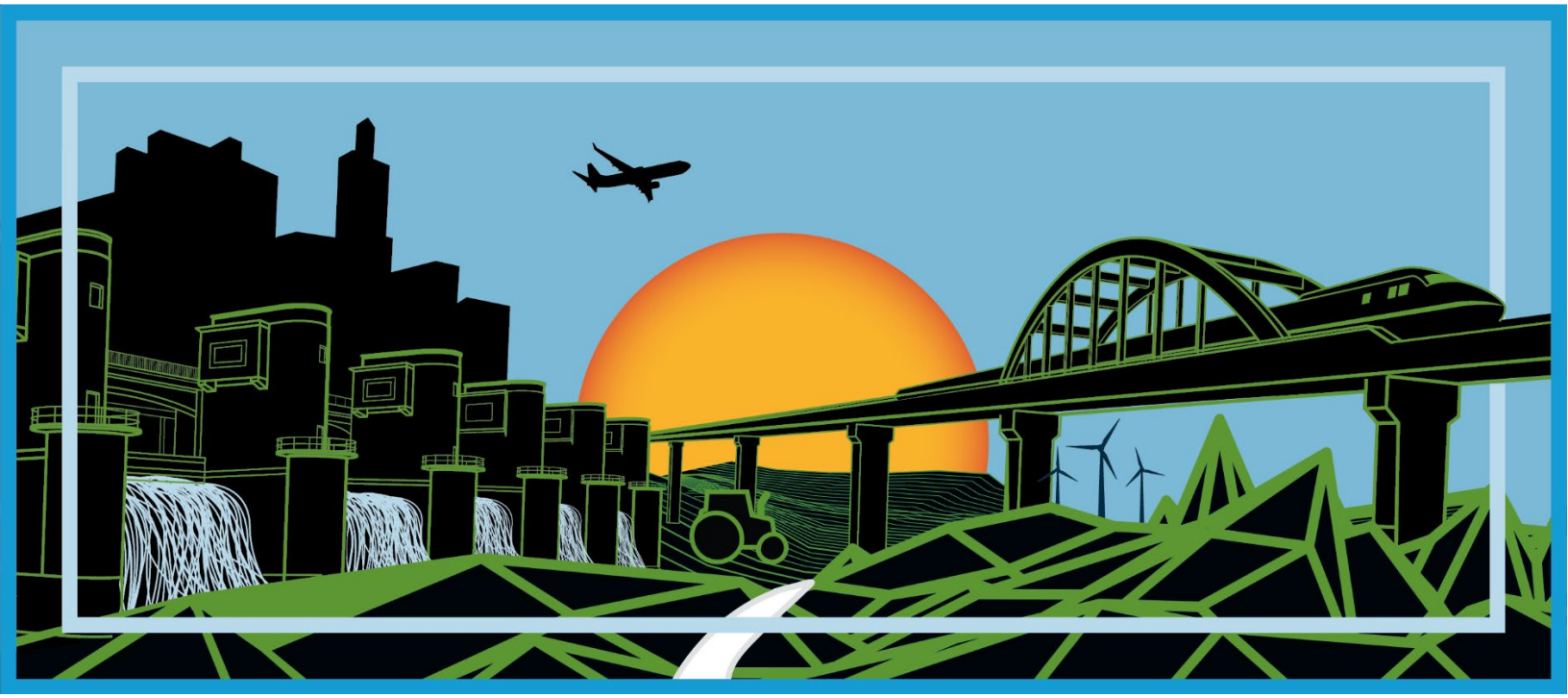

Secure Tomorrow Series

Scenario Narrative #2: New Golden Age Of Technology

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NEW GOLDEN AGE OF TECHNOLOGY

Remarks made by Christopher Foster, Director, Office of Research, Science, and Technology Policy, on the occasion of his retirement, December 10, 2040.

Good evening, thank you all for coming and for taking the time to celebrate the fact that you're finally getting rid of me. I asked my friends what I should say during my toast, and their advice was, "Nobody wants to hear you go off on one of your long-winded speeches. Just let everyone get back to the party." Well, sorry to disappoint you, but since the microphone is mine, I'm going to take advantage of it to remind you all how we got to where we are today.

I've been lucky to have had a role in shaping the trajectory of some pivotal technologies during my career. It's crazy to think that just 20 years ago we were still struggling to reach human typing speeds with an invasive brain-computer interface, or BCI, and now we're using noninvasive BCIs to do everything that a cell phone used to do—and more! I look back and marvel at how we got here.

I started my career as a tech lawyer in private practice, but I soon moved to where the action is, starting my own company, NeuroSights. We were early pioneers in developing machine learning algorithms to mine neurodata for insights. After a few years, we were bought out by a bigger technology company for a small fortune, and I had to make a choice about what to do next.

Fortuitously, shortly thereafter in 2026, I got a call from my friend and mentor, David Chen, who had been recruited by President Smith to lead a reinvigorated Office of Research, Science, and Technology Policy (ORSTP). David brought me in to run the newly created neurotechnologies program within ORSTP, asking me to use my connections to the neurotech world to ensure that coordination between the private sector and the government on neurotechnologies was airtight. He joked that he was pulling me out of "retirement" to be his assistant, but we both believed in what he was doing.

Tensions between the United States and Fictitia at that time were, quite frankly, worrisome. Many in the tech world hoped that the transition to the Smith administration would lead to a thawing of relations, but instead the two countries remained locked on their path of strategic competition for leadership in the global economy and, of course, technology. Each raced to claim first-mover advantages in development and establish the dominant standards for several key technologies. Smith's decision to supersize ORSTP, along with bolstering organizations that supported the U.S.-led financial order, was part of a competitive strategy that became a cornerstone of his foreign policy doctrine.

At first, the pace of change was frustratingly slow, but thanks to our strong connections to the private sector, changing some policies, and reworking some grants, we were able to push through a few key wins. In response, the BCI field saw a swell of patents and market-ready products by the late 2020s. Innovation led to major increases in safety, performance, and security, as well as advanced training

in virtual reality environments. While I can't claim credit for all of it, ORSTP definitely helped create opportunities in the field and put the technology into the hands of people who needed it.

Today we've started to take BCIs for granted. In medicine, scientists and doctors are helping diagnose and treat cognitive diseases, and they are giving amputees direct control of their artificial limbs. In the workplace, BCIs enable employee attention monitoring and decision-making support across a variety of fields, thereby improving worker safety and performance and leading to greater efficiencies. The industry also enabled major advances in training and education by combining brain control devices with augmented reality and virtual reality. And BCIs are now standard practice in authentication—what you all probably call "passthoughts." Who here remembers the first-generation BCI games from BrainConnect? By now, they're probably considered antiques.

After a few years at ORSTP, I transitioned from policy support to policy action in 2030, successfully running for the U.S. House of Representatives in my home district. During my time in Congress, I sponsored and passed legislation that helped advance a number of critical technologies in the United States.

The first was the Quantum Technologies Development Act, which catalyzed faster-than-expected growth in quantum capabilities in the United States, including some simulation capabilities. (For those techies out there, I'm talking about the noisy intermediate quantum realm.)

I then cosponsored the 21st Century Biodefense Act, which enabled the United States to become the first country to achieve industrial-scale bioremediation and carbon sequestration, as well as major wins in biological monitoring that helped us close the gap on our emissions reduction targets and monitor for pollution and pandemics. Do you remember the panic when the so-called "U.S. Liberation Militia" terrorist group released a novel neurotoxin in a water purification plant in 2036? Well, the advanced biosensors that triggered an automatic stop and saved thousands of lives were in place because of the 21st Century Biodefense Act.

I helped write the Quantum Cryptographic Transition Act to mandate that owners and operators of U.S. critical infrastructure transition their systems to post-quantum cryptographic algorithms. We did catch a lucky break in that the quantum computers that could crack public-key encryption were not developed until 2035, giving us time to transition to post-quantum cryptography and protect our critical infrastructure from the worst of our concerns for the post-quantum age.

Finally, I cosponsored the Neurological Information Nondiscrimination Act, establishing privacy protections for neurodata, guaranteeing those data the same level of protection as genetic data. (Boy, I got a lot of angry calls from former colleagues in neurotech for that one!)

In 2036, when the Davis Administration invited me to step in and lead ORSTP, my record of making smart bets on forward-leaning technologies already spoke for itself. And after 4 years as Director of ORSTP under President Davis, I'm proud to have overseen a number of successes for ORSTP and for the country: most Americans now use noninvasive BCIs and augmented reality headsets, either at work or for entertainment. Such devices have become the preferred way of interacting with the metaverse. And just last month, our BCI National Laboratory announced the achievement of a "write" capability in invasive BCIs, bringing the human brain one step closer to directly interfacing with the metaverse.

Synthetic biology and biotechnology have created their own revolution, with widespread applications across society and industries, particularly the development of key petrochemicals via synthetic biology.

As a global leader in quantum applications, the United States has enjoyed numerous first-mover benefits. Our engineers won the race to develop a general-purpose quantum computer. We successfully commercialized quantum sensing applications, and quantum simulation has led to advances in drug and materials development.

Wow. It's a lot. And it could tempt me to rest, but you haven't heard the last of me. I'll be taking a short break to finish my book, *Betting on the Future: Technological Change and the New American Era*, before assuming a position as a senior fellow at the Silverberg Institute.

The incoming Monroe Administration has many challenges to contend with. Some members of the public are pushing back against our advances in BCIs, opposed in principle or for philosophical reasons to what they see as an unacceptable level of human augmentation. And despite their usefulness in a large number of applications and industries, BCIs—particularly invasive BCIs—remain costly, out of reach for many Americans.

I wish the new administration the very best of luck, and I remind them that, if they need my assistance in any capacity, I now charge private-sector rates.

America is enjoying a new golden age of technology. Enjoy the party.