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BOOZ ALLEN HAMILTON

growth

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LETTER FROM THE EDITOR

I'VE BEEN TRAVELING A LOT RECENTLY. Crisscrossing time zones like an explorer with a carry-on. I've heard some say that eventually hotels, conference rooms, and office buildings bleed together. But that's not how I see it. In truth, I travel to meet people—current and prospective staff, clients, and partners—to share in their ideas about how to solve particularly thorny problems.

They're amazing—the people and the conversations. I'm constantly astounded at how relentlessly creative people can be. And then it hit me. When you strip away the details, nearly every conversation I've had in recent months has been about growth. After all, "there is no strategy at Booz Allen that doesn't lead to growth" (CEO Horacio Rozanski, pg. 25). It's this idea that we explore in this issue.

When you strip away the details, nearly every conversation I've had in recent months has been about growth.

Business growth is an important piece of this conversation. And it's an angle our data science team is currently exploring as they transform the R&D practices of the biopharmaceutical industry (pg. 10), as well as their entrance into the world of sports analytics (pg. 28). But we explore the tangents, too.

A few years ago, Booz Allen established the Fellows program. Through it, we're accelerating our intellectual capital by recruiting those considered to be at the pinnacle of their discipline (we currently have five Fellows). We charge them with a simple objective: *think across markets and do brilliant work*. This issue, we interview Science Fellow, Dr. Allan Steinhardt, who—among other feats—can detect your heartbeat with a laser beam and a camera phone (pg. 32).

The best ideas, however, aren't shackled to insulated organizations. We're smart enough to know that. It's why we're attracted to those cities amassing talent, partners, and innovation beyond the beltway. Featured on page 36, our columnists visited nine of these regions to witness firsthand the culture, the technologies, and the people that make it all possible.

Karen M. Dahut

KAREN DAHUT

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DETECTING DANGER

By Brenna Thorpe

YOU'RE STATIONED on a remote forward operating base in enemy territory beyond cell tower range. People and vehicles skulk through the darkness. Most aren't hostile, but your senses are heightened to anything that seems the slightest bit off. You don't have complete awareness. Tensions run high.

But there is a way to detect what you don't know. By rigging up a series of sensors, you can ensure the security of you, your team, and your location. One sensor might capture slight surface vibrations, like the rumble of a vehicle or the pitch of the human voice, which in turn remotely activates a small digital video recorder that feeds that content back to a command post.

When connected as a unified system, these clusters of sensors dial in that much needed situational awareness. Over time, patterns develop—making it easier to scrutinize the irregular from the mundane, the suspicious from the benign. This intelligence is called a "pattern of life." The Department of Defense (DoD) has a continuous mandate to operate in these remote, harsh locations where sensor intelligence is critical. The old systems currently used to connect these sensors, however, are greedy, frail, and cumbersome. They drain too much power, so sensors frequently die. They struggle to communicate in the mud, and the wet, and the grime of the field, or when the terrain or the distance stretches radio frequencies to silence. And what's worse, most existing systems are simply too complex. They require tedious on-the-ground setup and deployment times, as well as frequent visits to recharge or reset. This endangers both operatives and their covert operations.

With DoD clients seeking an easy-to-use, flexible, dependable sensor network that transmits over long distances and works in the muck, Booz Allen created Sensor Net.

A NETWORK FOR OPERATIVES

With DoD clients seeking an easy-to-use, flexible, dependable sensor network that transmits over long distances and works in the muck, Booz Allen created Sensor Net.

A low-power, long-range sensing and tracking system, Sensor Net monitors events and activities in remote locations where existing communications infrastructure runs out. "The system itself is really just a way to push data," describes David Guy, the Booz Allen project manager for Sensor Net, "with the data itself being transmitted over radio frequency from virtually any type of existing sensor currently used by clients."

SENSOR NET is used in mission operations to monitor events in remote locations, typically where there is no existing communications infrastructure.

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Existing sensors may be configured to detect vibrations, human voices, motion, temperature, and more, and Sensor Net can connect and communicate with almost all of them. Sensor Net's modular functionality easily incorporates repeaters, which enable radio signals to traverse harsh terrain and long distances.

What's more, Sensor Net can be configured prior to deployment. While a seemingly small change, it's a feature that endears Sensor Net to operatives who prefer a "drop-and-go" solution to a delicate game of sensor network construction during missions in dangerous environments.

Its low-power specifications are also critical. As David tells me, "These sensors are expensive technologies that our clients need to support their missions over a long period of time. What good would it be if the batteries died?"

NOT JUST FOR THE BATTLEFIELD

In combination, these capabilities make Sensor Net hardy, dependable, and effective. But its applications don't stop when the cell signal dies and the environment turns hostile. Commercial industry can use it, too, which gives Booz Allen the chance to expand the application of its burgeoning intelligence, surveillance, and reconnaissance products and technologies into new realms.

David describes Sensor Net as an advanced prototype, and his team continues to refine and test it at a facility in New Mexico to expand its full potential, which he believes lies in the agriculture and oil and gas industries.

"It's not a long leap to transition Sensor Net," David explains. "Farmers can use it to monitor soil content—nitrogen and moisture levels—in crops that cover hundreds of acres. Oil and gas companies, likewise, can use it to monitor pipelines in remote areas, listening for explosions, leaks, or attempts to siphon the oil."

Ultimately, Sensor Net is a tremendously scalable and reliable system, and its tangential possibilities continue to grow. The technology informs and drives any client's mission by harvesting information from the field—no matter if it is a battlefield, oil field, or cornfield—and relays the information back to those who need it.

RETHINKING RESEARCH

By Jacob Kriss

Drug discovery is expensive. Biopharmaceutical companies spend an average of $1 billion over 10 to 15 years to successfully develop a new drug.

The process starts with determining the appropriate molecular compounds to bring into the lab. These compounds are the "secret sauce" in creating new medicines. But for large, multinational pharmaceutical organizations, sufficient, rigorous research about which compounds might work is surprisingly hard to come by.

In 2013, Booz Allen engaged with a large biopharmaceutical company that needed improved scientific search, data exploration, and data analysis capabilities for scientists within its R&D operation. The goal was to enable broad data discovery within R&D by aggregating diverse data sources into a scalable data science platform.

START WITH BUSINESS-FOCUSED PROBLEM-SOLVING

Prior to partnering with Booz Allen, the company had consulted with a number of our competitors. But these organizations only administered traditional IT-based solutions, and none possessed the ability to effectively analyze the company's massive data sets.

Booz Allen's approach was different. "We created a solution that could meet their immediate needs, but more importantly a solution that could scale with them to meet their future business challenges," says Lucy Stribley, Senior Vice President and leader of Booz Allen's Commercial Health and Life Sciences practice. "Fundamentally, we looked at this as a business problem, rather than a technology problem."

The relationship between Booz Allen's data scientists and commercial biopharmaceutical experts was critical.

Diagnosing the problem required pairing data science expertise with industry knowledge. "The relationship between Booz Allen's data scientists and commercial biopharmaceutical experts was critical," says Senior Vice President Josh Sullivan, Booz Allen's Chief Data Scientist.

"Our Commercial Health team 'speaks' pharma—they have intimate knowledge of the processes," he continues. "They were there to help us translate our capabilities to the business problems that were important to the client, and help us understand how to position those capabilities and prioritize deliverables."

THE DATA LAKE

Four months later, Booz Allen revealed a searchable data lake, which integrated six traditionally disconnected data sets. Through a Google-like application, the data lake allows scientists to search a common syntax of molecular compounds. This helps them make data-driven decisions about which compounds have the highest chances of creating a successful drug, which saves the company time and money.

Booz Allen is now replicating the work with several other large biopharmaceutical clients. Lucy notes that the process can be adapted to any large multinational organization with complex IT, in industries such as transportation, defense, and finance.

"We created a blueprint for how organizations can use data science," she explains. "We learned how to apply the best of everything in our firm—from our

RESTORING THE HUMAN TOUCH

By Alex Haederle

Around this time last summer, did you dump a bucket full of frigid water and ice chunks on your head? If so, you—and millions of others around the world—were helping raise awareness for Amyotrophic Lateral Sclerosis, better known as ALS. Dubbed the "Ice Bucket Challenge," the dare cascaded into our culture at a rate that rivals the rapid onset of the debilitating disease for which it raised awareness.

The Ice Bucket Challenge, however, did more than simply bring ALS into the public spotlight. It raised over $115 million for the national ALS Association—an unprecedented amount given against a single fundraising effort. Over the coming years, Booz Allen executive leaders will help the organization invest that money in advocacy, care services, and funding for treatment and a cure.

But we're not stopping there. ALS is just the tip of the iceberg. Across the country, we're building technology that could revolutionize how others suffering from degenerative disorders live.

DARPA, BRAIN CHIPS, AND VIRTUAL REALITY

On a nondescript floor of a building in Arlington, Virginia lives Booz Allen's Center for Robotics Systems and Simulation (CRoSS.) In this dual-use workspace, Senior Lead Engineer Justin Manzo and a small team of mechanical and robotic engineers build everything from virtual simulation environments to unmanned aerial vehicles. The CRoSS mission: create technology to improve lives and keep people out of danger.

Entering a lab room, Justin introduces one particular prosthetics program that illustrates this mission in action. The program—a successor to theDefense Advanced Research Projects Agency's (DARPA) Revolutionizing Prosthetics project—focuses on developing devices that implant into the peripheral nerves, take inputs from robotic limbs, and use them to stimulate sensory systems. In effect, the technology creates a bridge for broken nervous system synapses, and restores a functional sense of touch to those without it.

Since 2009, Booz Allen has supported DARPA in developing this technology, originally intended for wounded warriors returning from combat. In a demonstration, I watch Justin, outfitted with 3-D goggles and a wearable motion-tracking wrist sensor, tilt his hand and command a virtual robotic arm on a computer screen to pick up objects of varying sizes and shapes. "This is an interface you can tap into for people with degenerative disorders—ALS, multiple sclerosis, paralysis," Justin explains. Clinicians and software developers can use the virtual reality interface to test functionality as if they have real prosthetic limbs, without the expensive costs to manufacture prosthetics hardware.

Senior Lead Engineer Justin Manzo demonstrates a virtual robotic arm at CRoSS.

This is not science fiction; this is a palpable development in assistive technology...

THE NEW ALS CHALLENGE

Two years ago, a local ALS Association chapter in western Pennsylvania noticed DARPA's work with spinal cord and debilitating injury patients. So they came to DARPA and asked, "What about ALS?" ALS is a brutal disease, with symptoms comparable to the degenerative injuries sustained by many wounded warriors. Patients rapidly lose the ability to move, talk, and eventually breathe. The disease carries a 100% mortality rate.

Our own Executive Vice President Bill Thoet chairs the national ALS Association. Armed with firsthand knowledge of CRoSS and our DARPA client work, Bill helped make a crucial connection in 2012. "Putting chips in the brain has huge implications for the future," he tells me, "particularly for patients with paralysis, ALS, and Parkinson's to lead somewhat normal lives." Accordingly, Bill and the CRoSS team engaged our DARPA clients and expanded the potential purview of this technology's applications.

THE FUTURE, IN THE PALM OF YOUR... MIND?

Booz Allen helped establish a relationship between DARPA and limb system developers, as well as the Food and Drug Administration and the Department of Veterans Affairs, Justin reveals. "We've helped DARPA realize that there's a much broader scope and audience for this Brain-Computer Interface (BCI) technology."

DARPA now partners with the ALS Association as well as groups working with dementia and Alzheimer's. In parallel, the Hand Proprioception and Touch Interfaces (HAPTIX) virtual interface is being developed for new clinical sites at Case Western, the University of Utah, and the University of Pittsburgh.

At these sites, researchers and doctors strive to find the best ways to help those with disabilities minimize discomfort and function independently. Booz Allen is helping these sites mature and integrate simulation environments to reduce research costs, to develop new uses for BCI technology, and to create prosthetic hardware capable of restoring near-natural function for clinical and at-home trials.

At Pittsburgh, Booz Allen has worked with the university clinical team for the last eight years to demonstrate restoration of motor capabilities via prosthetic arms. A patient who suffers from quadriplegia and cannot move her arms and legs recently trialed the BCI technology where she was able to control a robotic arm to pick up boxes and eat a chocolate bar—using only her thoughts.

This is not science fiction; this is a palpable development in assistive technology, one that has transformed the quality of life for real people and could change the lives of so many more. With our cross-market client relationships and technological capabilities, Booz Allen is in a position to revolutionize care for those who need it most.

What's possible, we've barely begun to grasp. *But we're building nonetheless.* ⊕

BUILDING BEYOND THE HOT ZONE

By Alex Haederle

In 1995, Richard Preston released *The Hot Zone*, a non-fiction thriller detailing the origins and episodes of the lethal, highly contagious Ebola virus. For perspective, Stephen King described just the first chapter as "one of the most horrifying things I've read in my whole life." What neither Preston nor King knew, however, was just how disturbingly relevant this book would prove to be.

Nineteen years after *The Hot Zone*'s release, the virus broke out again. In March 2014, reports emerged of an Ebola outbreak in West Africa—one that rapidly grew into the deadliest incidence of the virus since its discovery in 1976. Within mere months, more than 25,000 documented cases of Ebola plagued Sierra Leone, Guinea, and Liberia. At least 10,000 died.

PAPER PROBLEMS AND A THIRST FOR DATA

And then, in the heat of the crisis, Ebola went global. The virus immigrated to America, Britain, France, Germany, Italy, Norway, the Netherlands, Spain, and Switzerland. Nine more countries were infected, with 24 additional confirmed cases. Only 19 of those individuals are still alive.

With rigorous decontamination processes and the ability to track infected persons in place, America and the eight European countries contained their outbreaks. Quarantining Ebola in West Africa, however, was significantly more difficult for two basic reasons. First, these countries lacked real-time awareness of regional outbreaks, delaying response time and resource deployment to the appropriate regions. Second, they lacked the necessary technology to track, transmit, and syndicate health data among the aid workers screening locals and administering vaccine trials on the ground.

Nine more countries were infected, with 24 additional confirmed cases. Only 19 of those individuals are still alive.

Booz Allen engineers augmented our tactical forensic device with facial recognition software and a HIPAA-compliant cloud storage environment to solve new problems.

In small West African villages where many local residents share the same family names, have no recorded medical history, and speak in dialects alien to aid workers, accurate communication is nearly impossible. Imagine an aid worker in a hazmat suit, whose mission is to identify Ebola in a swarm of village residents while scrawling down information with a pencil and paper. Cumbersome and potentially communicable, paper is nevertheless common for aid workers to use, both in recording data and in analyzing health records. The health community simply hasn't developed a digital technology that can do both in austere environments.

"To even begin thinking about solving a problem like Ebola contact and vaccine tracing, we needed to bring our experts in biometric recognition, cloud data storage, custom devices, and predictive analytics together."

—ADAM WEINER

A MIXED CROWD AND A DISPERSED SOLUTION

Four thousand seven hundred miles away from the still soaring infection rates, a possible solution laid scattered among the minds of an epidemiologist, a group of scientists and engineers, and a newly acquired health analytics team, armed with a Booz Allen tactical forensic device designed for a different mission, a little ingenuity, and enough vision to see how it could all come together. In short, the Booz Allen team had a potential answer, but the solution wasn't yet together in one place.

"To even begin thinking about solving a problem like Ebola contact and vaccine tracing," Principal and Biometrics and Forensic Engineering capability lead Adam Weiner explains, "we needed to bring our experts in biometric recognition, cloud data storage, custom devices, and predictive analytics together." Aid workers need to collect accurate data about who's infected, who isn't, and where people are traveling, and syndicate that knowledge out to their fellow colleagues and larger organizations in real time.

With paper records as difficult to track as populations without zip codes, the newly formed cross-market, cross-capability Booz Allen team recognized that responders need a device to capture and store health data in the field—something portable and practical that responders could use while draped in a hazmat suit.

RUGGED, ADAPTABLE VAMPIRES

Booz Allen has developed a ruggedized, handheld forensic device used by law enforcement and military clients to conduct real-time, on-scene latent-fingerprint analysis. In its stock model, however, this device lacks the necessary components to address the needs of aid workers: namely, the ability to visually identify people without physical contact and to transmit that biometric data to a secure and HIPAA-compliant central repository.

Adam points out that, "Using the platform as a portable biometrics platform gave us a quick, cost-effective launch point and takes advantage of the device's ability to be decontaminated, operated in dirty conditions, and used in areas without any communications." Led by Chief Scientist Dr. Shawn Neugebauer and his team of computer vision scientists and image processing experts, Booz Allen custom-engineered facial recognition software into the existing technology to allow aid workers to accurately identify locals from a distance. Complicated as that sounds, it works like an iPhone takes pictures. Hover near someone's face with the device, follow the on-screen cues, and click when you're ready. We call this new tool INTREPID.

CLARITY WITHIN THE CLOUDS

Once an aid worker tags a person on the ground with the device, the technology takes to the skies. After the front-end face-imaging software collects a number of facial measurements, the device compares that data against the INTREPID Cloud: a virtual database of individuals previously tagged by the user's device, or by the device of a colleague. In combination, the augmented hardware and cloud solution solves the biometric and syndication problems of identification and authentication. INTREPID catalogs new, untagged individuals, as well as confirms known identities.

The INTREPID Cloud functionality connects and syncs aid workers' data in remote locations at any time of the day. This is especially useful during disease outbreak responses, where aid workers are often dispersed over great distances and work at odd times. Cloud enables someone traveling across a region to synchronize and share critical data—like health records—in a way paper can't. The improved coordination and communication among aid workers and health organizations permits secure knowledge transfer and faster analysis.

ACQUISITION, CONVERSATION, AND VISUALIZATION

Even so, the ability to accurately—and digitally—recognize and confirm the identities of local West Africans is just one half of the problem; the ability to track them, monitor their sentiments, and predict the next flare-up of the epidemic is another.

"Epidemico [Booz Allen's recently-acquired health analytics subsidiary] first identified the Ebola outbreak in 2014," Lead Associate and immunologist Diane Epperson remarks. Epidemico uses digital disease detection technology that provides real-time analytics and insights into population health. It's the difference between knowing who's sick, and knowing who's going to get sick.

Epidemico's MedWatcher product scrapes news feeds and administers a data processing algorithm to tag, filter, analyze, and visualize any health or threat alert, anywhere on the globe. Right now, we can track sentiment about Ebola—like how West African communities feel about clinical vaccine trials, or when eyewitness reporters break news—and parse social media for emerging public health threats. All data is aggregated, analyzed, and then visualized on maps to project where an outbreak may move.

With a device in place for aid workers to capture biometric information and a cloud environment built to syndicate their data, the working group integrated MedWatcher's data visualization and analytics technology to meet the needs of aid organizations. Our INTREPID package—the augmented hardware device modified with facial recognition, the INTREPID cloud environment, and the data visualization and analytics—is a solution for Ebola contact and vaccine tracing and beyond.

READY FOR WHAT'S NEXT

"Once you build it for Ebola, you can switch it for any other disease," Diane explains. A customizable product, INTREPID helps aid workers identify people who might be at risk for contamination, and visualizes data for those workers in ways are that are hands-on, instantaneous, and secure.

Organizations would be able to deploy resources to contain outbreaks of diseases before they spread out of control. Whether it's Ebola, anthrax, SARS, or MERS, we've built something that will be necessary in the future—it's just a matter of when.

Although it took nearly one year before the disease was contained to a geographically limited area, fortunately, the death tolls in West Africa have fallen dramatically. Dr. Margaret Chen, newly elected Director-General of the WHO, predicts the Ebola outbreak will end by this fall.

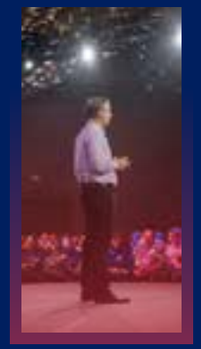
According to Adam, "In addition to helping organizations with critical agendas in the health market, INTREPID injects a highly customizable, out-of-the-box product into the biosurveillance market." One that can identify people, store, and analyze data in the cloud through a small, rugged, handheld device.

INTREPID is a proof of concept of Booz Allen's ability to spot a problem early, leverage our growing product portfolio, and discern the people, skills, and technology required to engineer a potent remedy to prepare the world for the next hot zone.

THE CONDUCTOR

By Joseph Smallwood & Toby Ulm

If you've ever sat in a concert hall prior to a symphony, you'll recognize the notes. Muffled chatter from the galleries rivals the swell of tuning instruments. Both burble politely, but with disjointed excitement as they await someone to lead. And then, with calming purpose, the conductor enters and raises the room to silence.



"It's an odd thing," says Horacio Rozanski, Booz Allen's new CEO. "The conductor is the one person in an orchestra who doesn't make any noise. They don't produce the music." And yet without a conductor, you don't have music, just a bunch of people making a racket. An occasional moment of harmony may ripple through the ensemble, but it's impromptu, and soon dissipates again into a din. No, an orchestra needs a leader.

Like the conductor, Rozanski believes the CEO's job is to relay his vision, unify the organization, and guide its performance by setting tempo, and listening critically, shaping the sound so the ensemble can play at its best in combination.

It's a vision for CEO in stark contrast to the 'CEO as rock star' paradigm. "I think success is created in teams," he affirms. "Of course teams need captains, and the CEO plays a very significant role. But the way in which the imagery of a company gets centered around the individual is peculiar to America, and very different from the cultural reality of an organization."

Practice Makes Perfect

Since becoming CEO in January 2015 and for several years before that, Rozanski and his team of executives have methodically sought to foster a culture of innovation at Booz Allen. "When we originally said, 'Booz Allen needs to be more innovative,' there was some skepticism," he recalls. "I may even have shared some of it." But creating a culture is like learning an instrument. If you don't make the time to practice, you soon fall out of key. Organizational mindsets are the same. If you stop being creative, you cease to be relevant. It takes discipline and practiced persistence to sustain new ideas.

And it starts with giving people the autonomy to experiment and the freedom to fail (a delicate balancing act for a big business with demands for quality and efficiency.) Rozanski knows you can't strangle creativity with constricting bureaucracy. You must nurture it with an investigative culture. "As an organization we don't set narrow parameters on ideas. When you do that, you may walk away from the things that really matter," he says.

You Don't Tell the First Chair How to Play

Creating environments for diverse people and ideas to harmonize has become one of Rozanski's primary roles. "Every orchestra has a first chair," he explains. "But the conductor doesn't tell them how to play. Rather, the conductor orchestrates all the pieces of the ensemble in a way that sounds great and makes sense as a whole." Rozanski doesn't micromanage. Instead, he believes smart, talented people want the chance to do interesting work.

> EVERY ORCHESTRA HAS A FIRST CHAIR… BUT THE CONDUCTOR DOESN'T TELL THEM HOW TO PLAY. RATHER, THE CONDUCTOR ORCHESTRATES ALL THE PIECES OF THE ENSEMBLE IN A WAY THAT SOUNDS GREAT AND MAKES SENSE AS A WHOLE.

That entrepreneurial spirit is central to success at Booz Allen—taking initiative, seizing opportunities as they arise, applying resources, and embracing sensible risks.

For his part, Rozanski fundamentally believes Booz Allen affords employees the opportunity to reach their potential and ambitions. Adopting this canon is how he has stayed at Booz Allen for 20 years longer than he originally thought he would.

"But you have to be willing to meet us at least half way," he says. "I don't know of any company that will serve up opportunities in small, discrete little nuggets. And if there is one, I don't think we employ the type of people that would want to work there." Because at the core of a hundred year old consultancy are motivated people who need problems to solve.

Investments To Grow the Core Business

Our people are like our business in that growth both capitalizes on and fuels our potential. It's a requirement. "There is no strategy at Booz Allen that doesn't lead to growth," Horacio explains.

He notes how markets go though periods of distortion and, consequently, growth patterns get disrupted. But the focus of the leadership team remains on how to create growth—even when the market is shrinking, as it has done in recent years. "The difference is that we couldn't do it all in the present, so we had to figure out how to grow in the future," he says.

It's through this strategy—called Vision 2020—that Booz Allen has targeted its investments in growth platforms: Engineering, Systems Delivery, Cyber, Innovation, and Commercial/International. "We're all in," he says. "For the last three years, and likely for years to come, our investment capacity is aimed at deepening capabilities that are most in demand and most useful to clients in meeting their missions."

Rozanski is also keen to point out that the growth platforms don't take money away from other areas of the business. "As a company, we have big ideas and big aspirations," he stresses. "For the purposes of investment, we have to prioritize. The growth platforms are a way of accelerating our core business. They're not antagonistic. They're additive. The growth platforms are complementary and fundamental to our core business."

In fact, the growth platforms are only possible because of the core business. It's Booz Allen's core business that generates the investment capacity for the growth platforms. The core business provides the deep understanding of clients and their missions, the demand signals in the market, and the intellectual capital necessary to build advanced solutions and products. And it acts as the conduit for new ideas to flow back into the market.

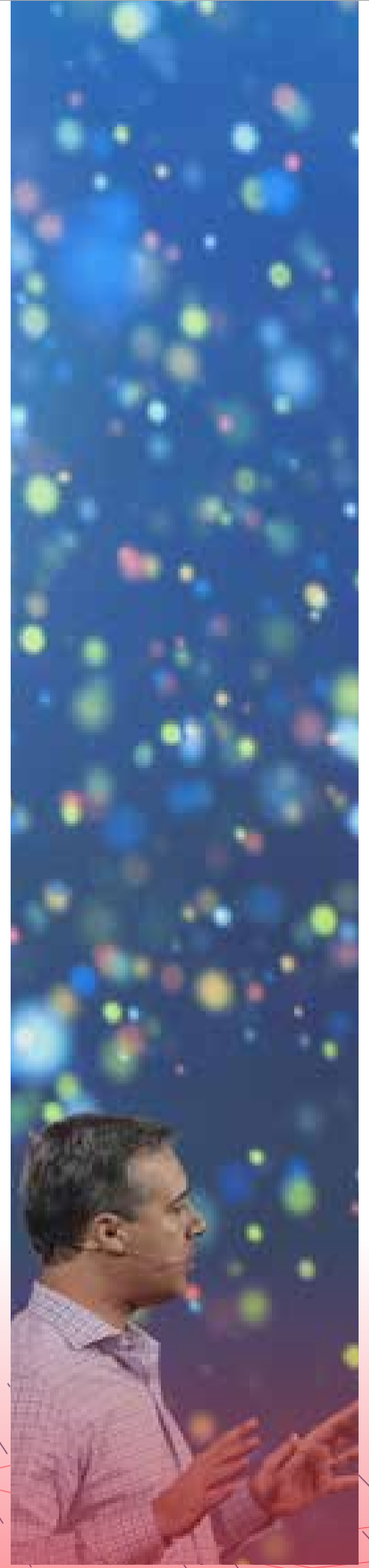
Naturally, these investments aren't picked at random. They're tied to market demands. Booz Allen made the investment in Engineering, for instance, because clients have an escalating need for these types of services and we're well positioned to partner with them through engineering challenges in keeping with their respective mission requirements.

Success in Grey Areas

The reciprocal benefits extend beyond the growth platforms and the core business. The skill of Rozanski and his leadership team lies in assembling investments that can integrate but are not so closely aligned that their reach is limited.

"Our intention is to focus innovation without losing it," he explains. "The growth platforms accelerate the business and mingle together." In other words, the growth platforms have overlap, but also unique strengths. While each investment area has the capacity to reveal new insights and disrupt markets, it's in the overlap where Booz Allen has the potential to clarify obscure client problems and invent new industries and business.

Rozanski believes that by intentionally blurring the boundaries between our growth areas, you invite employees to surprise their clients. Today's business challenges are rarely black and white. They require an interdisciplinary approach. It's in these grey areas where Booz Allen's people invent solutions that might solve a problem, while remaining mindful of alternative applications for their ideas. "Working in the space between established ideas allows you to stay focused without losing your peripheral vision," he says.



Grow the Right Way

But for Rozanski, growth is not enough. It's got to be the right kind. "I'm interested in creating sustainable quality growth. Growth that's good for our clients. Growth that's good for people's careers. And growth that's good for our profitability and our shareholders."

It's a long-term strategy, one that differs from the approach taken by some other companies. "If we were willing to forsake what we want to be known for and lower our prices to take on work we're not interested in, we might be a marginally bigger company," he says. The problem with that model, though, is that over time your experience becomes your brand. "We could have won work because we're Booz Allen," he continues. "But as some point your talent leaves because they're not doing the work they want to be doing."

The growth platforms reinforce Rozanski's vision for the type of company he wants Booz Allen to be: a company that directs employees' attention to solve complex business problems without stifling their creativity; a company that invests in ideas that accelerate new ways of working and grows our reputation; a company where ideas can expand into new markets, but are always connected to what we do and our clients' missions.

"We're not a venture capital firm," he says. "We don't invest in ideas just because they sound good. It has to make sense for the business."

A New Genre of Consulting

Rozanski complements Booz Allen's investment strategy with a shift in the way the company consults clients. He believes Booz Allen must be the "essential partner."

Like nurturing a culture of innovation, advancing the essential partner mentality ensures Booz Allen stays relevant to clients. As Rozanski notes, "I think we can be central and critical to all our clients' missions. Not useful, but essential. Some clients already view us that way and we the have opportunity to become that for others."

From a people perspective, Rozanski wants employees to embrace their role with their client and become indispensible. "If all 22,500 staff connected their clients' problems to the firm's capabilities, we'd be the essential partner to all our clients tomorrow," he exclaims. "It's that simple and it's that hard.

If I'm the Conductor

His resolute belief in the concept of the essential partner is inextricably linked to his belief in Booz Allen's employees. While many leaders claim their people inspire them, the sentiment has a different timbre when Rozanski says it.

He takes every opportunity he can to speak to Booz Allen employees. "I enjoy my conversations with The Rising Leaders Forum [a gathering for employees just starting out at Booz Allen] as much as I do my conversations with senior partners," he says. It comes from his desire to get people to connect.

"I want to get people talking. Not necessarily agreeing. We need to have an honest dialogue to see if and where all our ideas can coalesce," he explains. And he's carving out the time to do it. He's committed to reserving time on his calendar for speaking to and engaging with staff—an activity that he says constantly astounds him on a personal and professional level.

But it's what's employees don't talk about that mark the key signature of Booz Allen. "When you hear of the anonymous acts of generosity that the people of Booz Allen just do as a matter of course, without ever realizing how amazing they are, that is both humbling and awe inspiring," he says. "I come to work thinking I can't let people like this down."

One of the many examples he cites is the financial matching program Booz Allen set up after the recent Nepal earthquake. In just 10 hours, we were more than halfway to our $50,000 goal. "That's incredible," he notes with admiration. "And we're talking about a part of the world where very few of our employees have a personal connection and we have no business, friends, or partner connections."

So when he says the people of Booz Allen inspire him, he means it. And that inspiration comes with a weight of responsibilities and an excitement for the future. "With an orchestra like this one, we have to be able to play the most beautiful music," he says. "And if I'm the conductor, it's my responsibility to make sure that we do."

PUTTING DATA ON THE OFFENSE

By Jacob Kriss

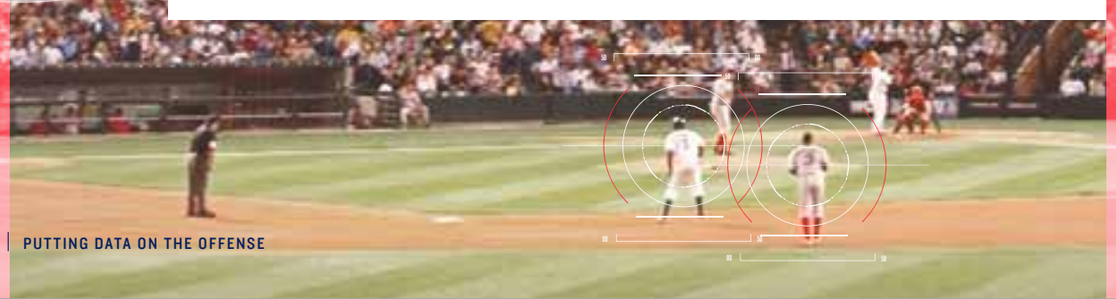
For data junkies and sports enthusiasts, the term "sports analytics" evokes the film *Moneyball*, which depicted the Oakland Athletics' use of sabermetrics to identify undervalued players and achieve unexpected success in the early 2000s.

But in 2015, the world of sports data science has raced far beyond baseball sabermetrics, which were really just "stats on steroids," says Booz Allen Principal Ray Hensberger.

Today, Booz Allen is using advanced techniques such as predictive modeling, clustering, and classification to help sports clients apply their data to improve performance and truly understand their customers. "What we're doing is fundamentally different from just having a bunch of data and running basic statistics over it," says Ray.

Sports' unique ability to draw people together makes working in this emerging space especially meaningful for Ray and his team of data scientists.

"Because such a huge proportion of the population are sports fans, everybody can relate to the stories we tell and experiences we live though sports," says Chief Scientist Alex Cosmas. "The ability to improve the fan experience touches all of us, and it touches all of our clients."



STAYING RIVETED IN THE ROWS

Although a new market, Booz Allen's in-the-stands work already includes helping an MLB team devise a ticket-pricing strategy, down to the individual game and stadium row; optimizing a loyalty program for a sports management organization to incentivize fans to keep coming back; and evaluating the attractiveness of potential commercial partnerships to the franchise.

"Sports organizations are starting to think through these questions on a granular level," says Lead Associate JD Hannick. "And Booz Allen is in the front row when it comes to thinking how businesses can recruit their data to spur new business models."

FINDING THE FASTEST AND FIELDING THE FITTEST

Beyond these initial applications, Booz Allen is finding ways to apply data to improve teams' on-field performance. While it's more of a "cottage industry" than its in-the-stands counterpart, JD notes, there's opportunity to use data to create a better on-the-field product that will draw more fans.

In particular, the explosion in the use of wearable technologies and player tracking systems, such as the NBA's SportVU camera software, has accelerated on-field analytics around player movement and decision-making. With this data, teams can implement fitness regimens to help their players perform at their peak, as well as prevent injuries by gauging fatigue levels and pulling players when they have higher risk.

The Booz Allen team is also exploring how to use data from past seasons, draft combines, social media, and on-field performance to help coaches predict the next play their opponent may run, craft successful game strategies, optimize their rosters, as well as help scouts and agents determine who may be a steal or a bust in the draft.

Looking forward, the movement from predictive to prescriptive analytics, or those that actually tell you what to do, will be the "Holy Grail" as the space continues to evolve, explains Alex. "Pulling in real-time simulations and giving coaches an instantaneous response—that's the art of the future."

CONVERGING FOR COMPETITION

Booz Allen's entry into sports analytics grew from its employees' passion for top-level competition. In 2013, the firm wrote two white papers, one surrounding MLB pitch prediction and the other on NBA shooting zone spatial analytics, that it submitted to the 2014 MIT Sloan Sports Analytics Conference, one of the world's most prominent data science events.

A year later, Booz Allen became a featured sponsor of the conference. "Our staff are really energized about us doing stuff in sports, it's a really fertile recruiting ground, and from a competition standpoint, there's not many other big companies that are doing what we are with sports analytics," Ray says.

RUNNING THE SHOW

At this year's conference, Booz Allen hosted a Data Science and Visualization Zone, demonstrating a drag-and-drop tool to help teams evaluate players based on NFL Combine and MLB game data. It also demonstrated BlitzD, a prototype app developed in partnership with Microsoft that could help NFL defensive coordinators predict offensive plays, and showed off its capabilities with MLB ticket-pricing and data-science-driven brand and reputation monitoring.

Attendees packed Booz Allen's space for the demos and panel discussions, recalls Lead Associate Ben Jarvis. "It really helped that we had tangible products that people could touch and feel," he says.

Beyond amplifying awareness, the team rallied interest from and huddled with numerous sports organizations, laying the groundwork for new client engagements, as well as potential partnerships with a leading tracking-technology company and a major sports data supplier.

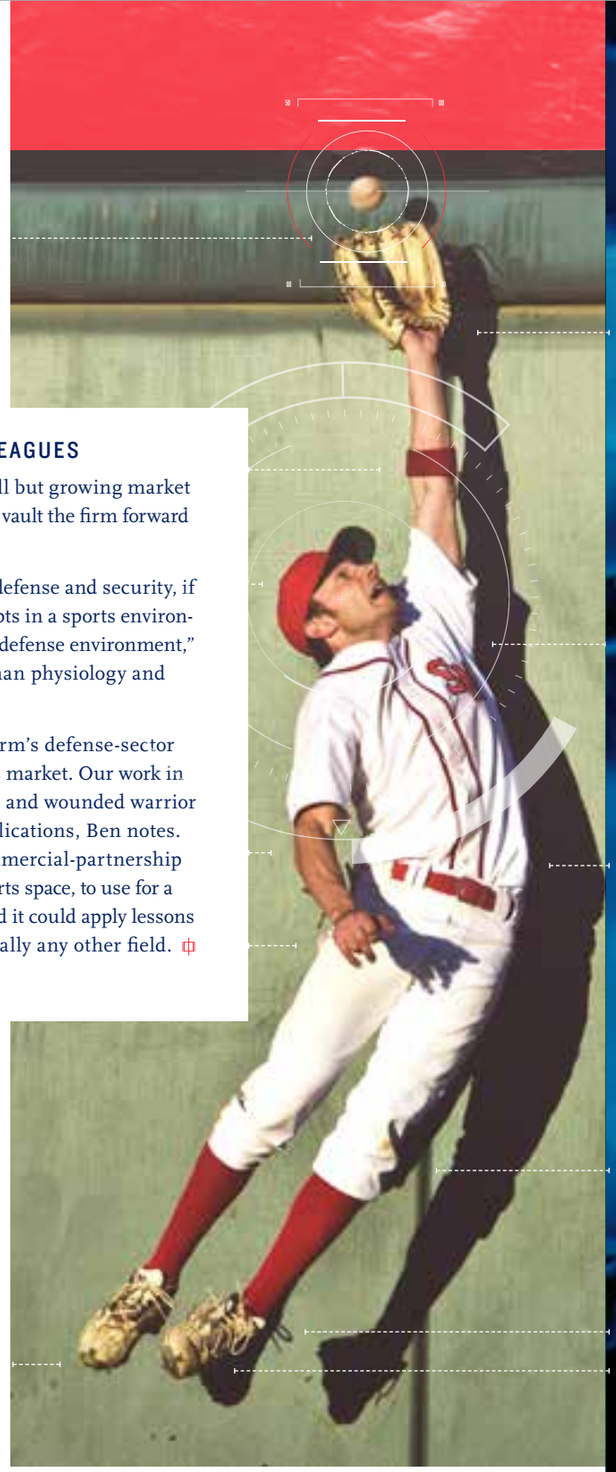
"If we can get [our partners'] data and build off of it, and then turn back to the leagues and teams and say, 'We already have a whole solution set around this,' that gives us so much more momentum and keeps us ahead of the curve," says Ray.

MASTERING OTHER MAJOR LEAGUES

And while sports analytics is a small but growing market for Booz Allen, it has the potential to vault the firm forward in other sectors.

"There's a huge upside for national defense and security, if we can validate and prove out concepts in a sports environment and apply them in the tactical defense environment," Alex says, particularly around human physiology and conditioning.

Looking at the reverse angle, the firm's defense-sector expertise also transfers to the sports market. Our work in military health around concussions and wounded warrior reintegration has direct sports applications, Ben notes. The firm is already putting its commercial-partnership evaluation abilities, honed in the sports space, to use for a major domestic airline, he notes, and it could apply lessons learned in sports analytics to virtually any other field.



Pulling in real-time simulations and giving coaches an instantaneous response—that's the art of the future.

THE SCIENCE OF WOW

AN INTERVIEW WITH DR. ALLAN STEINHARDT, BOOZ ALLEN'S SCIENCE FELLOW

By Brenna Thorpe

BOOZ ALLEN SCIENCE FELLOW + CHIEF SCIENTIST AT DARPA + FELLOW OF THE INSTITUTE OF ELECTRICAL AND ELECTRONIC ENGINEERING (IEEE) + ASSISTANT PROFESSOR AT CORNELL UNIVERSITY + BOARD MEMBER OF THE ARMED FORCES COMMUNICATIONS ELECTRONICS ASSOCIATION (AFCEA) + MEMBER OF THE NATIONAL ACADEMIES' NAVAL STUDIES BOARD + REGIONAL JUDGE FOR THE FIRST® ROBOTICS COMPETITION + PUBLISHED OVER 200 ARTICLES IN ACADEMIC AND DEFENSE STRATEGY JOURNALS + RECIPIENT OF THE DEFENSE MEDAL FOR EXCEPTIONAL PUBLIC SERVICE + B.S. DEGREE IN MATHEMATICS, AND GRADUATE DEGREES IN ELECTRICAL AND COMPUTER ENGINEERING FROM THE UNIVERSITY OF COLORADO, BOULDER.

In 2011, Booz Allen unveiled its Fellow program. In the four years that have followed, we've bestowed five individuals with the distinction. Considered to be at the pinnacle of their field, Booz Allen Fellows are as well-respected as they are imaginative in their disciplines (which stretch from human capital to science and technology). Their charge is a simple one: *think across markets and do brilliant work*. I recently got the chance to sit down with one of them for an hour of enlightening conversation. His name is Dr. Allan Steinhardt.

What do you do as a Booz Allen Fellow?
I would describe it as general strategizing on science and technology issues. I've worked on a number of projects that have resulted in patents, follow-on work, and new growth platforms. I'm very involved with Booz Allen's Strategic Innovation Group and do a great deal of consulting with the Defense Advanced Research Projects Agency (DARPA) and other defense clients.

Tell me about some of these projects.
The first one that comes to mind is a signal intelligence collection platform we developed three years back. It's basically an antennae and a processor that are able to analyze signals in the air. Our radio frequency experts actually deployed it in operations with the military—in theater. They achieved some spectacular things that simply weren't possible with existing technology. Since then, we've developed a few different product applications.

Such as?
We can fingerprint vehicles down to the make, model, and serial number. The device senses the unique emanations from the electronics. It can also be used to diagnose malware, or detect if electronic components in products like iPhones are counterfeit, all without having to touch the device.

That's incredible! What else are you working on?
We have another project that can detect a human heartbeat with a laser beam and a camera phone. In practice, you can use it to remotely figure out if a living person is in a vehicle.

We have another project that can detect a human heartbeat with a laser beam and a camera phone.

Let me guess: it could prevent human trafficking through checkpoints?
Yes. The idea is that a customs officer could point the device at a vehicle at a checkpoint, and see if people are being smuggled inside. It removes the time-consuming requirement to manually inspect a vehicle. And this summer, we'll test to see if you can use this technology to detect people being smuggled inside of cargo containers.

Is smart phone augmentation a big development area?
Yes! We have numerous projects related to cell phones. For example, we've patented a special lens that costs less than a dollar that you can put over the lens of a cell phone camera. It essentially converts the phone into a medical instrument that can pick out different kinds of skin cancer using wavelengths invisible to the human eye. The lens then converts the information outside our visual range in such a way that it can be seen.

And I assume, like everything else, we've found some spectacular adjacent applications for the technology?
Well, actually, my colleague Ziggy Majumdar recently published a paper at a forensics conference that showed it is possible to figure out how old a blood sample is using this tool.

So, it's a mobile CSI lab for the price of a pack of gum?
It has great forensics applications. But we've also used it with the Army. We showed that when combined with the lens, a phone camera can detect the presence of people wearing camouflage by differentiating their clothing from foliage. Plants create ultraviolet rays, but humans don't.

Sort of like heat-sensing goggles in reverse, then?
Exactly. And those technologies are widely used by foreign militaries. Our technology gives the Army an edge over countries that only use heat-sensing technologies.

How do you get funding for all of these projects?
It's a combination. As a Fellow, I'm able to get funding from Booz Allen, the Sciences Functional Community (FC), Defense FC, and I have access to my own investment dollars. This mingling, as well as the use of various market funds depending on the client we're partnering with, drives collaboration and helps these ideas come to life.

So, say I think I have a great idea, but don't know a Fellow. How do I get traction or funding for my idea?
There are a number of different avenues you can pursue. There's the FCs and market investment, firmwide competitions like the Combustion Chamber, and more. The firm relentlessly seeks new ways to encourage ideation and empower staff. I think it's a wonderful thing.

Have you seen a shift in our culture over the ten years you've been here?
Booz Allen has always been creative, but we're looking for new approaches. There is very strong commitment from senior leadership for us to evolve from being just the consultant of choice, to being the essential partner. That requires rethinking how we approach client solutions.

What does it mean to be the essential partner?
Being an essential partner means uniting with our clients to come up with a solution. That is a unique and powerful position to be in. There are companies that sell products that say, "Hey, I want you to buy this." Then there are consultants that say, "Hey, here is our idea, now get someone to execute it for you." We have the power to combine our products with our consulting ethos and deep client understanding. The results can be truly extraordinary.

LISTEN TO THE BEAT
SEARCH AND DOWNLOAD "**ENVOI ARTICLES**" FROM YOUR APP STORE TO HEAR THE HEARTBEAT OF A BOOZ ALLEN EMPLOYEE IN A CAR, CAPTURED FROM 30 FEET AWAY, FROM A LASER BEAM AND A CAMERA PHONE

INNOVATION

BEYOND THE BELTWAY

ALTHOUGH HEADQUARTERED IN MCLEAN, VA, more than 70% of our people based in the capital region sit side-by-side with their clients in government buildings every day. In downtown Washington, D.C., we partner with civil agencies to build the technologies that deliver seamless government services. Across the Potomac River in Crystal City, Alexandria, and Chantilly, VA, we're engineering original solutions for our military clients. Travel north just beyond the I-495 beltway to the Maryland suburb of Rockville, our people work in close consultation with a vital health community. Head east toward the water and you'll come cross Maryland's National Business Park, where our cyber and analytics specialists serve our clients in the intelligence community.

But as Galileo once proved, we aren't the center of the universe. Neither is D.C. (or McLean). That's why Booz Allen is gravitating toward places with real momentum. Organizations big and small are building amazing technologies and partnerships in regional pockets beyond the beltway.

Boston, MA, for instance, is in the epicenter of a data science revolution. Research Triangle Park in North Carolina is a hub for high-tech manufacturing. One hundred and fifty people a day are moving to Austin, TX to join its burgeoning digital community. Venture capital organizations on the west coast corridor—stretching from Seattle, WA to San Diego, CA—are rapidly scaling capabilities in everything from nanotechnology to clean tech, big data, and space flight.

Booz Allen is becoming an essential partner in these ecosystems. We're physically co-locating, co-creating, mentoring, incubating, contributing, and investing in and with organizations in these regions. In this Innovation Beyond the Beltway feature, we explore Booz Allen's presence in nine cities, the respective projects and technology we're working on there, and how each regional office acts as a relay to connect the best ideas to our clients' most complex challenges. ⌱

Stories By:

ALEX HAEDERLE

CONNOR J. HOGAN

JACOB KRISS

TOBY ULM

Have a question? Email us at **ENVOI@bah.com**

BOSTON
Massachusetts

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mi

BOSTON

THIS REVOLUTION WILL
BE QUANTIFIED

Look around Boston and you'll witness a city built on revolution. A 200-foot-tall granite obelisk in the heart of Charlestown memorializes the Battle of Bunker Hill, where in 1775, British troops endured a pyrrhic victory in temporarily staving off the Colonial rebellion. Float south just a bit and you'll land at Griffin's Wharf, where the Sons of Liberty once dumped some 342 chests of tea off a British ship, a coordinated act of disobedience that forever raised the Harbor's water levels.

Two hundred forty years later, and revolution still hangs in the air. Somewhere in between Samuel Adams architecting American republicanism and modern Americans guzzling 2.5 million barrels of Samuel Adams beer annually, Boston established itself as a leading city. Boston is among the world's premier big data hubs, and ground zero for not just the American Revolution, but also the innovation revolution in modern analytics and data science.

It's also where Booz Allen is revolutionizing the way it works, within a cradle of regional influence, entrepreneurship, and excitement. In Boston, we're charging ahead with the same bravery in data science that our founding forefathers built a nation upon.

SHARING THE STAGE: THE INAUGURAL OPEN DATA SCIENCE CONFERENCE

"Will data scientists go extinct in the near future, replaced by increasingly smart, automated tools?"

It's a provocative question, and one that Booz Allen Chief Scientist Alex Cosmas used to kick off his speaking session during the first-ever Open Data Science Conference. On May 30 in Boston, more than 2,000 attendees listened intently as Anthony Goldbloom—founder and CEO of Kaggle, global leader for analytics competitions—led a keynote address sharing a number of observations from Kaggle data science projects and the community. Over the course of two hot summer days, the conference centered on discussing and advancing the use of open source in data science.

It's no surprise that Alex and Anthony shared the stage; their companies have a history. Just this year, Booz Allen and Kaggle co-sponsored the National Data Science Bowl, a charity competition that sought to unite the data science community around helping marine biologists monitor marine life at a speed and scale never before possible.

Data science and analytics drive Boston, and Booz Allen's data science and analytics team has mirrored that track. Our capabilities—cloud analytics, machine learning, predictive modeling, data visualization, transportation analytics, and more—cut across commercial and federal industries, and parallel the academic programs that Harvard, MIT, Boston College, and Northeastern University have invested millions into. Today's data scientists extract knowledge just as history's physicists and chemists have in the past.

ORGANIC GROWTH

A few weeks after the Open Data Science Conference, Alex spoke again at the 2015 MITX Big Data Summit. This is normal. It's this type of thought leadership and visibility in the data and analytics community that has allowed the Boston Booz Allen team to grow from a mere 25 staff in 2011 to more than 70 today. Connections extend beyond the office walls. Each month, we sponsor internal meet-ups called BIFF—Boston Ideas, Friends & Fun—that teach staff practical skills ranging from the latest data analysis techniques to how to build up a client base.

As the amount of staff has grown, so has the way in which they work. Alex describes the office as "intensely collaborative," and rightfully so: no one goes it alone in Boston. Project information is syndicated among local staff, so everyone remains in the loop and able to jump in as needed. People nimbly move in and out of projects without missing a beat and call meetings at a moment, giving the office a fast-moving, ad-hoc, and inspired rhythm. And that's how they want it to be.

"We hire amazing people that everyone wants," Lead Associate Mark Gerner explains, "And we're not forced—it's organic. Because we're known in the area for the great work we do, it's a long game here, and it's really paying dividends."

This long-game approach funnels into Boston's recruiting philosophy as well, where we hire college interns from MIT, Harvard, Tufts, Boston College, and Boston University. We then integrate them into exciting projects that range from using social analytics to predict the next breakout music star to building a database to aid digital disease detection in the Middle East and China.

BOOZ ALLEN IN BOSTON

BOOZ ALLEN EMPLOYEES: 70
DATA SCIENTISTS: 40
INDUSTRIES SUPPORTED IN BOSTON:

+ COMMERCE
+ FINANCE
+ AVIATION
+ ENVIRONMENT
+ ENERGY
+ TRANSPORTATION
+ SPORTS

NATIONAL DATA SCIENCE BOWL

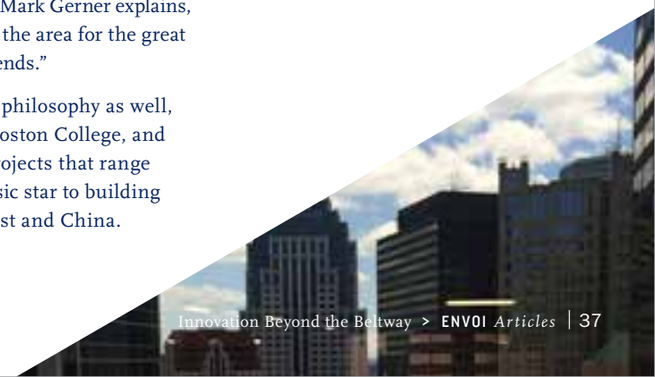
+ December 2014 - March 2015
+ 90 days
+ 1,293 participants
+ 15,000 submissions
+ $4M in pro bono research

BIG DATA IN BEANTOWN

+ 500+ Companies in big data ecosystem
+ 5,200+ Processing and data-related patents initiated between 2008–2012
+ Highest per-capita concentration of college graduates with data science-related degrees
+ $2.5 Billion invested in big data companies since 2000
+ $20 Million in federal grants awarded for big data research since 2006
+ $3 Million government capital investment in Massachusetts open cloud project

BOOZ ALLEN IN BOSTON: INTERNING AND RECRUITMENT

+ Massachusetts Institute of Technology
+ Harvard University
+ Boston College
+ Boston University
+ Tufts University



> "It's a badge of honor to be a scientist. We have to be truth seekers, not fact seekers."
>
> —**ALEX COSMAS**
> CHIEF SCIENTIST

SPACE & TIME

Later this year, the Boston Booz Allen team will move out of their small office at 22 Batterymarch Street, and up the block into a 16,000-square-foot, 20th-floor space at the corner of Milk Street and Devonshire Street.

"We outgrew our office," Alex Cosmas pronounces to a small tour group seeing the 20th-floor space for the first time, "So we went on a campaign to pilot a new workplace concept." Gesturing to the open area around us, currently all concrete and unfinished ceilings, Alex begins articulating the vision for the 20th floor workspace. His words voice-track a beautiful visual backdrop: floor-to-ceiling windows that look out on the Charles River and offer a clear panorama across the water to Cambridge, the region's cradle of academia and start-up industry.

The 50 Milk Street office will redefine what it means to work at Booz Allen in Boston. It will be a co-branded, co-located, collaborative space that draws influence from Silicon Valley work environment principles, yet wields a distinctly Boston attitude. It's with Cambridge Innovation Center (CIC) that Booz Allen is co-branding the 20th-floor event space.

"This office space—there's no limits," Principal Ezmeralda Khalil remarks as Alex leads a new hire across the floor. "We'll have a much more forward-looking space for the culture we're trying to incubate."

Once the ribbon is cut later this year, any time a person attends a CIC event, they will see the Booz Allen name adorning the wall next to CIC's logo, as well as the glass windows, barrier-free and collaborative floor space, rustic wooden tables, an Ideation Wall, and yes—treadmill desks. 50 Milk is just one example of how Booz Allen is revolutionizing its approach to partnerships and the way its people work, in effect opening the doors to bright ideas, and even brighter people.

50 MILK STREET: BOOZ ALLEN'S NEW SPACE

+ **ADDRESS:** 50 Milk Street, Boston, MA
+ 16,000 square feet
+ 175-person capacity
+ 80 collaboration spaces
+ 44 workstations
+ 6 executive offices
+ 2 treadmill desks
+ Ideation wall

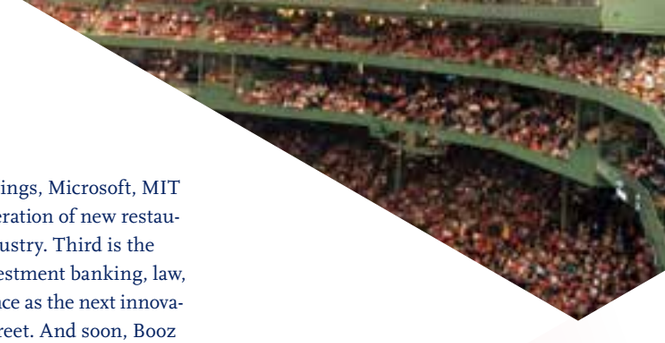
CAMBRIDGE INNOVATION CENTER

The Cambridge Innovation Center (CIC) is a startup accelerator that provides office space and resources for entrepreneurs and startups, as well as hosts events. CIC houses the largest cluster of startups around the Boston area, where some 850+ companies in more than 433,000 square feet of CIC space have generated $2 billion in venture capital investments in the past two decades. CIC's presence has helped drive Cambridge commercial rents to increase twice as fast as in Boston, and three times as fast as other major U.S. cities.

BIG BETS ON INFRASTRUCTURE

50 Milk Street sits in the heart of the Financial District, a rock's skip across the water from the Seaport district in South Boston. The Seaport has transformed over the past half-decade, beneficiary of the city's commitment to supporting technology start-ups. Formerly an abandoned warehouse-ridden neighborhood on the eastern shore, Seaport is now home to some of Boston's most groundbreaking and creative tech companies, such as EnerNOC and ChoiceStream.

In recent years, Boston has invested in building up focused "Innovation Districts" in various pockets of the city. The first resides across the Charles River to the west—Kendall Square in Cambridge—where two CIC buildings, Microsoft, MIT and more converge. The second is Seaport, where the proliferation of new restaurants and housing units matches the pace of the startup industry. Third is the Financial District. Traditionally home to Boston's major investment banking, law, and accounting firms, Financial seems primed for a resurgence as the next innovation district, solidified by CIC's recent move into 50 Milk Street. And soon, Booz Allen will sit high above it all.



THE BIG DIG

For years, Boston was criticized for the Big Dig, a sprawling urban megaproject that ran a decade past estimated completion and nearly five times over its initial $3 billion budget. The project suffered a seemingly endless stream of cost, design, and execution setbacks—anyone who drove the highways around Greater Boston in the 1990s and early 2000s remembers the incessant noise of massive construction vehicles and mind-numbing traffic backups that defined a regular commute into the city—and the Big Dig became a symbol of failure for a proud city.

In 2007, however, the project finally completed, and suddenly Boston found itself with the Ted Williams Tunnel, more than 300 acres of open park space, a beautiful new bridge to Charlestown, a rerouted major highway, and a new public transportation line that opened access between downtown Boston and the Seaport. This created a new environment for businesses to inhabit, and that's exactly what happened.

ONE WITH THE CITY

Just as Boston invested in the Big Dig to rebuild the city's infrastructure and create new opportunities for its people and economy, Booz Allen similarly made a big bet on itself in 2013 to build an internal ecosystem, to lead through collaboration, to diversify our portfolio of business, and to inspire our people. The Boston team's journey over the past five years is the hallmark regional example of that blueprint in action.

"This is what Booz Allen is, right?" Lead Associate JD Hannick asks, somewhat rhetorically. "You have the history, the heritage, you have the new age—all jammed together." Indeed, with so much happening across this firm and such a rich history upon which we continue to build, there will be a wealth of new stories to tell and data points sprinkled throughout the journey.

And when we need a team to make sense of it all, we'll know where to find them.

EPIDEMICO: READY IN REAL-TIME

Epidemico is a Boston-based informatics startup that marries data acquisition and analytics with a focus on public health. Epidemico provides early real-time insights, continuous monitoring, and consumer engagement for disease outbreaks, drug safety, supply chain vulnerabilities, and more. Booz Allen acquired Epidemico in 2014 to support growth in the health and data science sectors, as well as substantiate our regional influence in the world's data science hub. With these capabilities now in-house, we've been able to pursue a new set of problems to solve (see "Building Beyond the Hot Zone on pg. 14) When Booz Allen moves to 50 Milk Street, Epidemico will move alongside us—co-locating, collaborating, and attacking the biggest data problems together.

NOTABLE TECH COMPANIES FOUNDED IN BOSTON

+ **EMC CORPORATION**–70,000+ employees, $24B in revenue in 2014
+ **HUBSPOT**–raised $114M through its IPO in 2014
+ **AKAMAI**–founded at MIT earned $1.6B in revenue in 2013

ATLANTA

LIFE STARTS
WITH THE CDC

For many Americans, Atlanta is the backdrop to AMC's hit zombie drama, *The Walking Dead*. Some readers may even remember the now iconic shot of fictional sheriff's deputy Rick Grimes walking down an empty, abandoned highway toward the city's skyline.

In reality, the highways and roads seethe with traffic, the heat is unrelenting, and the population isn't running from any flesh-hungry zombies. And besides, deadly epidemics are unlikely to plague Atlanta, as it's home to the world's largest and most successful public health project: the Centers for Disease Control and Prevention (CDC).

In Atlanta, the CDC is Booz Allen's largest client, Principal Keith Hansen tells me. Close to three-quarters of the firm's employees in the region support CDC. Speaking in his office on the 26th floor of a downtown skyscraper, with striking views overlooking the city, he explains how the growth of our engagement with CDC in the last several years has built an exciting new capability.

"If you go back five years, Booz Allen didn't do lab work, and we didn't have people embedded in the sciences," he says. "We said, 'We're going to do something Booz Allen has never done before. We're going to get in the labs and do true bench science work.'"

Today, Booz Allen is an essential partner to the next-generation genomic sequencing, health surveillance, and public health mission at CDC. We augment the agency's capabilities and support cutting-edge research at the intersection of technology, epidemiology, and laboratory-based science.

BOOZ ALLEN IN ATLANTA

BOOZ ALLEN EMPLOYEES: 349
EMPLOYEES SUPPORTING CDC: ~250
CDC ON-SITE EMPLOYEES: ~220
OTHER CLIENTS SUPPORTED IN ATLANTA:

+ Treasury Department
  + Internal Revenue Service
  + Federal Aviation Administration
  + General Services Administration

DID YOU KNOW?

The CDC has technology capable of sequencing all 3 billion base pairs of DNA in a human genome in two days for about $900. The original effort to sequence the human genome, completed in 2003, took more than a decade and cost $2.7 billion.

A BEAUTIFUL PLACE FOR BIOLOGY

Visitors are not allowed to take pictures anywhere at the CDC campus located on the outskirts of Atlanta. It's a strictly enforced rule, but for good reason. "It's really one of the most beautiful places almost no one has seen," Senior Lead Technologist Chris Hopkins says as he leads me across a courtyard.

Looking up at gleaming metal and glass buildings rising over lush, landscaped gardens and streams, I can't disagree. But it's what's inside these buildings—where Booz Allen is helping CDC understand diseases and preventing epidemics—that is truly extraordinary.

Booz Allen supported the introduction of genomic sequencing technology during its early use at CDC several years ago. "This technology is democratizing labs to analyze entire genomes," Chris says. "They're learning things they never thought they'd learn.

THERE IS NO DAILY GRIND

In the CDC Division of Healthcare Quality Promotion, Lead Scientist and bioinformatician Eishita Tyagi analyzes pathogen genome sequences with powerful computers, working to see the effects of different experimental techniques.

"It's not hard to come into work every day when it's something this important to public health," she says. "Every organism is different, and every sequence is different, so you're never doing the same thing."

DEVELOPING THE NEXT GENERATION SAFELAB

Working to make labs safer at CDC and beyond, Booz Allen is developing an Internet of Things (IoT)-connected SAFELab. Using sensor-based technologies, the lab will give real-time alerts around any deviation from protocols. "Our focus is to make research less cumbersome while enhancing quality, safety, and efficiency," says Senior Associate Dan Baker.

ANNUAL EVENTS/ INITIATIVES/ ORGANIZATIONS SUPPORTED

+ For the Kid in All of Us school supply backpack drive
+ Habitat for Humanity builds
+ Toys for Tots donations
+ Kids at Heart, support for families coping with congenital heart defects
+ Thanksgiving food drive
+ YWCA Women in Transition program
+ Making Strides Against Breast Cancer

DID YOU KNOW?

There are 80 notifiable diseases that local public health authorities are required to report to the CDC.

DID YOU KNOW?

The Booz Allen Excellence Awards is a yearly awards ceremony that recognizes teams and people for their extraordinary work around the nation. It's like Booz Allen's night at the Oscars.

ATLANTA COMMUNITY PARTNERSHIPS AT A GLANCE (2014 FIGURES)

+ **TOTAL VOLUNTEERS:** 250 (Atlanta-based staff, plus friends and family, approximate)
+ **NONPROFITS SUPPORTED:** 19
+ **EVENTS HELD:** 21
+ **MONEY RAISED:** $75,000 over the last four years
+ **PEOPLE IMPACTED:** 3,500

STREAMLINING THE IT OF SURVEILLANCE

In addition to scientific research, the CDC monitors when and where infectious diseases occur across the nation.

In 1990, it established the National Notifiable Diseases Surveillance System (NNDSS), a collaboration that enables local, state, and federal public health organizations to share disease-related information with the CDC.

Recognizing the need to make the system more efficient, however, the CDC recently began investing in the NNDSS Modernization Initiative. As part of that effort, a Booz Allen team is managing the development of a Message Validation, Processing, and Provisioning System. This software will process and synthesize notifiable disease data sent by jurisdictions and provision the data to various CDC programs.

"I always like doing work that's so close and foundational to the mission of CDC," says Chief Technologist Jo Ann Lata, who manages the effort and works closely with local jurisdictions to make sure the system meets their needs. "This is public health, and it's a project where IT meets science."

WATCHING OUT FOR THE COMMUNITY

Associate Erin Grizzle leads community partnerships efforts in Atlanta. And in the past three years, it's more than doubled participation rates. In fact, in 2013, the folks in Atlanta were a Booz Allen Excellence Award finalist for their community service efforts.

> "If you can grow a more well-rounded individual who's connected to the community that he or she is living in, and that his or her clients live in, it's going to build that brand."
>
> —**ERIN GRIZZLE**
> ASSOCIATE

Getting leadership on board was critical to building participation, she says, as well as improving communications and choosing events that align with the office and local market.

"Volunteering benefits the company and the person," she says. "If you can grow a more well-rounded individual who's connected to the community that he or she is living in, and that his or her clients live in, it's going to build that brand."

COMBUSTION CHAMBER

A few weeks before I arrived in Atlanta, Booz Allen held its fourth Combustion Chamber—a competitive pitch event for entrepreneurs in the company seeking mentoring or investment for their business or product ideas. Semi-annually, it's hosted in a different city, and with a different theme each time. During my stay in Atlanta, teams were still buzzing about this year's health-themed competition. Learn more about the Combustion Chamber in the sections to the right.

ATLANTA-BASED COMBUSTION CHAMBER FINALISTS

CHRISTY STAATS, ASSOCIATE

+ **SOLUTION:** Automated Laboratory Reporting Equipment
+ A system to ensure medical freezers that hold critical lab specimens stay at the right temperature.

CATHERINE ORDUN, ASSOCIATE

+ **SOLUTION:** Surveillance of Surveillance
+ An academic paper, to be published in a major medical journal, examining the three main problems that plague public health surveillance systems: lack of information sharing, reusing the same data sources, and duplication of efforts–there's 27 federal systems monitoring pandemic influenza alone.

DIMITRIOS KOUTSOUNANOS, ASSOCIATE

+ **SOLUTION:** Project Certainty
+ A new effort to capture death events in real time.

ATLANTA COMBUSTION CHAMBER BY THE NUMBERS

+ **DATE:** June 11, 2015
+ **LOCATION:** General Assembly, Atlanta, GA
+ **FOCUS:** Health and Internet of Things (IoT)
+ **FINALISTS:** 9
+ **ATTENDEES:** 124
+ **TOTAL INVESTMENTS AWARDED:** $130,000

RESEARCH TRIANGLE PARK

RAPID ENGINEERING IN NORTH CAROLINA

RTP AREA FACTS

FOUNDED: 1959
LOCATED: BETWEEN UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL, DUKE AND NC STATE
SIZE:
+ Industrial Park covers 7,000 acres
+ 200+ research companies including more than 60 startups
+ 22.5 million square feet of built space

GROWTH PLATFORM

Engineering is a central component of Booz Allen's Vision 2020 strategy. In fact, it's one of five Growth Platforms Booz Allen is investing in. The others? Cyber, Innovation, Systems Delivery, and Commercial/International.

Lead Technologist Brandon Farlow had a challenge.

Working on a new version of Booz Allen's handheld mobile tactical forensic device, Brandon needed to ensure it was rugged enough for frontline military and law enforcement personnel to operate it in harsh conditions. The new back-case cover he was designing had to be completely waterproof, to protect the sensitive electronics and critical intelligence stored inside.

"Instead of calling up somebody, ordering it, and waiting a couple weeks for it, I just designed it, went to the shop, built it, brought it back to my office, and tested it," he says. "I ended up solving the problem here in a couple hours."

Brandon's type of rapid prototyping is typical of the Booz Allen engineers working in Research Triangle Park (RTP), a 7,000-acre technology hub triangulated between Raleigh, Durham, and Chapel Hill, North Carolina. He's part of a team, known as Custom Electronic Solutions (CES), where functional, physical problem solving is simply part of the day-to-day.

HANDS-ON INNOVATION

The Booz Allen RTP office is alive with active, professional engineering. At their desks, engineers have easy access to metal parts, pliers, clamps, and screwdrivers, while high-powered microscopes help them examine the details. Shelves around the office hold technical manuals, antenna setups, and other electronic equipment. Down the hall, software engineers write lines of code to run via custom circuit boards that their colleagues design.

In addition to regular offices, one third of Booz Allen's space in the single-story building is dedicated to custom fabrication and assembly. It's where technical schematics are transformed into something you can hold in your hand. The RTP office offers complete solutions, from initial concept to final delivery, using its in-house low-rate manufacturing capabilities.

Next door, in the testing area, engineers perform final assembly and assessment of the devices they create. Boxes of supplies and reels of wire are neatly arranged around the edges of the room, where seated workstations are outfitted with additional microscopes and desktop-size electronic testing equipment. The room houses a surface mount technology (SMT) operation, a series of machines to assemble custom circuit boards, as well as an x-ray machine capable of debugging boards and conducting complex reverse engineering.

THE IMPERITIVE FOR ENGINEERING

RTP is a hub for high-tech manufacturing. Situated between three of North Carolina's premier research universities, organizations in RTP attract the country's most talented scientists and engineers. Today, organizations with expertise in fields such as microelectronics, telecommunications, biotechnology, chemical engineering, pharmaceuticals, and environmental sciences surround the 20-strong Booz Allen team. It's that connection to research, talent, and industry that makes RTP such a dynamic place to work.

And while the CES team in RTP is primarily known for supporting products like Sensor Net and Booz Allen's family of digital video recorders (DVRs), the office is keen to share its various engineering services, which range from technical consulting to design, rapid prototyping, and low-rate production.

In fact, the office is working to integrate its capabilities into other parts of Booz Allen's portfolio. To that end, Senior Associate Mike Rekrut, who leads the team in RTP, has been traveling the country to brief other capability teams and clients on the value of what his team builds, while working to better understand their client needs.

BUILDING IDEAS. BUILDING TRUST.

In RTP, Booz Allen's workforce of mechanical, electrical, software, and hardware engineers originates from a diverse set of backgrounds and industries, giving it the depth it needs to tackle a broad set of challenges.

"This is a world renowned area for talent and technology—it really keeps you on your Ps and Qs," says Brandon. "You're constantly doing research to find out what the next guy's going to bring here. It's a good driving force."

The welcoming, relaxed culture of the RTP area and office fosters a cooperative environment in which employees trust one another and actively socialize exciting new concepts, notes Senior Lead Technologist Ken Hutcherson. "We share our engineering ideas and we collaborate as one team," he says. "It's just the way we do things here."

COMPANIES IN RTP

+ 46% Biotech and Life Sciences
+ 20% Information Technology
+ 10% Scientific Associations
+ 9% Business and Professional Services
+ 15% Other

RTP COMPANIES BY SIZE

+ 76% 1-24 employees
+ 7% 50-99 employees
+ 4% 100-249 employees
+ 7% 250-999 employees
+ 6% 1,000-5,000 employees

"Our engineers are very talented and highly flexible, and they can tackle a broad set of challenges presented to them."

—**MIKE REKRUT**
SENIOR ASSOCIATE

BOOZ ALLEN TOOLS & PRODUCTS DEVELOPED IN RTP

+ **DVR**–Easy-to-use, compact, durable, mission-oriented DVRs for military and law enforcement; useful for covert surveillance and special operations
+ **SENSOR NET**–A long-range, low-power wireless sensing network of sensor radios that connect to a central base station unit, at distances up to 20 kilometers
+ **VAMPIRE™**–A rugged, handheld mobile tactical forensic device for law enforcement and military operators to collect and analyze fingerprints in just seconds
+ **AVERAGE PRODUCTION RUN:** 5–15 units
+ **AVERAGE CLIENT ENGAGEMENT:** 2 Weeks–2 Months

NEW YORK

RATTLE & HUM—ABOVE THE NOISE, IN THE HEART OF NEW YORK

BOOZ ALLEN IN NEW YORK

OFFICE LOCATION: AVENUE OF THE AMERICAS, NEW YORK, NY

BOOZ ALLEN EMPLOYEES: 100

Times Square is utter madness. It's busy, bright, tall, loud, fast, shiny, dirty, gaudy, wild, flashy, and frighteningly foreign. To me, as an out-of-towner from Washington, D.C. with sidewalk claustrophobia and a sporadic fear of heights, this place would be downright intolerable without caffeine.

But here I stand, laptop bag over shoulder and dark roast in hand, walking west along 42nd Street from Grand Central heading towards Bryant Park, marveling at those around me who have internalized this madness as sheer routine. I'm out of place, but nonetheless, I'm here to figure it out. What is Booz Allen doing in the middle of Manhattan?

"Grand Central station, wheels and it deals.
The crowds rush and scramble..."

—STEVE FORBERT

"GRAND CENTRAL STATION, MARCH 18, 1977"

Always moving, it turns out.

"We're growing our young and thriving Commercial business," Executive Vice President and leader of Booz Allen's Commercial business Reggie Van Lee remarks. "We're solving the most important problems for clients, and delivering the best solutions."

In New York City, we're using predictive intelligence technology to help big banks thwart cyber attacks and detect fraud, while simultaneously helping clients manage third-party vendor risk and comply with federal regulations. We're using advanced analytics and data science to sift through the din in data and advancing our competitive agenda, driven by hungry, and talented staff.

Booz Allen has positioned itself both among the rush and scramble Steve Forbert sang about, yet squarely above the noise.

"And now it's all. Big talk, big name, big noise, New York"

—DONALD FAGEN

"BIG NOISE, NEW YORK"

RISKY BUSINESS

The Commercial Solutions team, installed in 2012 to build a differentiated, more technical commercial Booz Allen business—one that focuses on integrated cyber solutions, expert specialists, and cutting-edge technology and tools to solve the toughest client problems—has enjoyed substantial growth. One particular area is in third-party risk management.

"Banks are complicated ecosystems, and rely on vendors to provide services and technology to operate," Vice President and regulatory compliance and risk management lead Jim Newfrock explains. "After the financial meltdown of 2008, federal regulators started to look closely at where banks were at risk." Big banks, unprepared to deal with sweeping regulatory changes with in-house resources, have needed help ever since.

Today, Booz Allen helps financial institutions stay compliant with increasingly strict federal regulations with process design, technology change management, and vendor risk models. We've grown small work into big business in the Big Apple, and are now reproducing that model overseas.

DETECTING FRAUD THROUGH THE NOISE

Every 15 seconds on the 25th floor of the MetLife skyscraper where Booz Allen resides, a whiteboard rattles slightly and the ground rumbles under foot as the subway passes through the 42nd Street-Bryant Park station.

"In New York, you get really good at tuning that out," Staff Technologist Grant Herman notes, as we stand in the large conference room overlooking Times Square. Grant, a programmer who lives in Brooklyn's Williamsburg neighborhood—a cultural hotbed for indie rock, local art, and waterfront hipster pool parties—shows me his latest prototype to tune out noise. It's a systematic fraud detection tool that uses a personalized page rank algorithm to discover the origin of falsified credit card transactions.

Today, organizations are more vulnerable to fraud and hackers than they ever have been. They need better technology to keep up with threats that can compromise their operations.

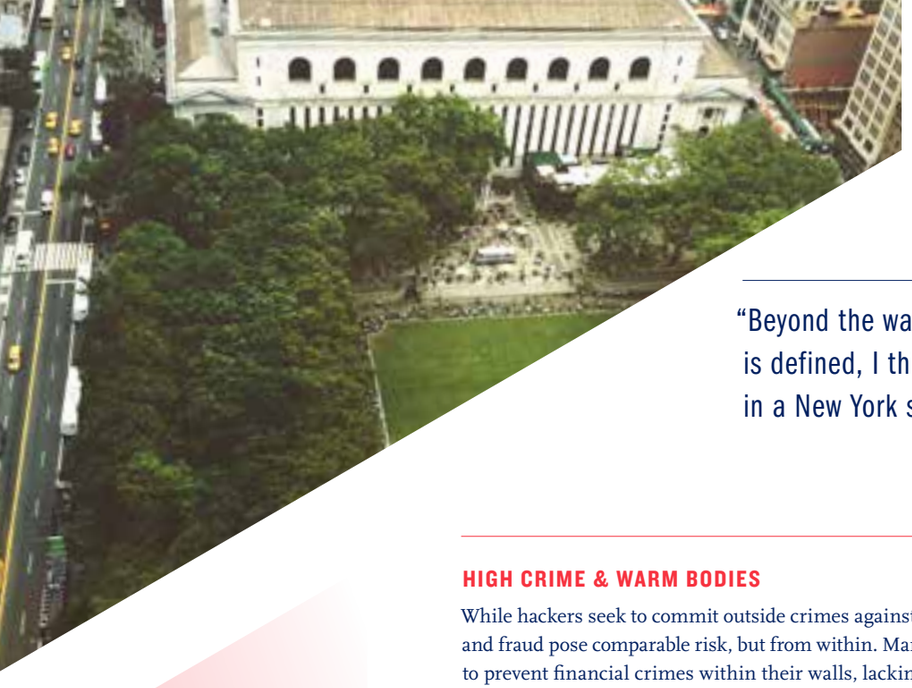
It's Grant's type of advanced analytics technology we're building to help clients —from credit card companies to banks to security companies— cut through the noise created by all that data and gain insights to better protect both organizations' and consumers' valuable information.

DID YOU KNOW?

44% of US organizations experienced a data breach or failed compliance audit in the last year.

A TIMELINE OF MAJOR FRAUD

+ **2008-2009:** Heartland Systems–130 million debit and credit cards compromised
+ **2011:** Epsilon–60-250 million records compromised
+ **2011:** Sony Online–102 million records compromised
+ **2013:** Living Social–50 million records compromised
+ **2014:** Home Depot–56 million payment cards compromised
+ **2015:** Anthem–69-80 million records compromised



"Beyond the walls of intelligence, life is defined, I think of crime when I'm in a New York state of mind."

—NAS
"N.Y. STATE OF MIND"

HIGH CRIME & WARM BODIES

While hackers seek to commit outside crimes against organizations, insider trading and fraud pose comparable risk, but from within. Many businesses have been unable to prevent financial crimes within their walls, lacking ample technology to monitor employee activity. Recently, Booz Allen has stepped up with a mission to take outdated fraud detection models and modernize them.

"The historic response for financial institutions has been to throw bodies at it," Executive Vice President David Kletter comments, remarking on the inefficient way that large companies have tried to hire more human analysts to detect risk and fraudulent behavior.

These analysts must comb through data about an individual and attempt to manually aggregate information from disparate sources, just to form a probabilistic guess about their risk of committing fraud. But there's a better way.

Based on Risk Canvas, Booz Allen's predictive intelligence tool (and one that we've traditionally applied in the government space), we built the Entity Enrichment Engine (E3), a data tool that fetches relevant information about an individual from all corners of the cyber universe. It's the only financial crime technology solution based on data science.

SCARY, BUT TRUE

Employees working in accounting, operations, finance, sales, purchasing, and customer service commit 77% of occupational fraud.

"These streets will make you feel brand new..."

—JAY Z & ALICIA KEYS
"EMPIRE STATE OF MIND"

COMMERCIAL ALLIANCES

Since standing up the Commercial Solutions group, Booz Allen has built alliances with over 30 organizations, ranging from small health and energy companies to massive retail businesses. "We're uncovering new opportunities together," Associate and Commercial Alliances lead Nicki Catchpole tells me, "and creating successful use cases that can inspire people in the market."

It's not about driving from a single point of sale and going it alone, according to Nicki. It's about establishing a life cycle relationship that evolves and changes, and that mentality—to build, collaborate, and evolve—is the linchpin of our partnership philosophy.

BOOZ ALLEN COMMERCIAL ALLIANCES AT A GLANCE

+ 30+ active and prospective alliance partnerships
+ Spanning markets of Health, Financial Services, Energy, High-Tech Manufacturing, and Retail
+ 20% of projected FY16 Commercial revenue influenced by alliances

COMMUNITY INVOLVEMENT

Reggie Van Lee has a deep, personal relationship with New York City—Harlem especially, where he co-owns the Five and Diamond restaurant, and separately has devoted his time and resources to enhancing small businesses and neighborhood fine arts venues. Over the years, Reggie has involved Booz Allen, and especially the growing Commercial team, in volunteer efforts and philanthropic activities throughout New York City.

This year, we committed to working with Harlem RBI, a non-profit that provides inner-city youth with mentoring, coaching, and development opportunities. The goal is to get all of their kids accepted to college.

"It's the message of helping kids thrive," says Lead Associate and Commercial Solutions market lead Alan Numsuwan, who serves on the Harlem RBI board and helps manage the strategy of a $20 million/year budget.

Where some may seek to take a holiday from the noisy neighborhood, we're following Billy Joel's lead—embracing the New York state of mind, embedding ourselves in the city.

NEW BUILDING, NEW LOOKS

"A lot of consultancies are in this town," Associate and Queens resident Akanimo Udo tells me, "and we want to be considered the best among them."

Visibility is everything in Manhattan, and to that effect, Booz Allen is slated to move across Bryant Park next March, into a new office building with *Booz Allen Hamilton* proudly adorning the facade.

The movement reflects growth, and speaks to the success and reputation we've built within a fast-swinging, type-A community. That's the Booz Allen way. We immerse ourselves in chaos and embrace challenges, where some prefer to avoid the noise altogether. But that's not us. Not in New York, New York.

"I want to be a part of it, In New York, New York"

—FRANK SINATRA
THEME FROM "NEW YORK, NEW YORK"

BOOZ ALLEN LEADERSHIP IN THE COMMUNITY

+ **2001:** Helped assess the economic impact of the September 11 attack
+ **2009:** Evaluated expenditures, revenue sources, and alternative water/waste-water/storm water rate structures
+ **2014:** Launched Explore Data Science at Strata + Hadoop World Conference
+ **2014:** Sponsored the Oil & Gas Strategies Summit
+ **2015:** Modeled pedestrian traffic for new One World Trade Center building

SAN DIEGO

NAVAL HERITAGE REIMAGINED

When you stand under the Gaslamp Quarter sign that stretches over Market Street near downtown San Diego, CA, you feel the fresh coastal air rustle through your shirt. Each year, thousands swarm to this exact location to experience the Street Scene Music Festival and the Taste of Gaslamp food fiesta. Just north, resides the almost tropical Balboa Park, home to the famed San Diego Zoo, Air & Space Museum, Natural History Museum, and Naval Medical Center.

Walking to the western border of Market Street, you can look across the San Diego Bay toward Coronado, an island resort town that features just one of the city's many perfectly white beaches. It's also where the U.S. Navy operates one of its Air Stations, and is also home to an Amphibious Base where Navy SEALs train. It's a bay view that evokes the depths of San Diego's history, where the largest naval fleet on the planet floats, and where Booz Allen has helped deepen the U.S. Navy's mission for more than 75 years.

Booz Allen won its first contract with the Navy in 1940. Then-incoming Secretary of the Navy Frank Knox asked Booz Allen's original founders to prepare the U.S. Navy for war. In a short time, the efforts of Edwin Booz and Jim Allen helped double the Navy's size, revamp its systems and services, cut red tape, and establish an efficient new management structure. We've proudly helped them make waves ever since.

BOOZ ALLEN IN SAN DIEGO

WORK LOCATION: 90% ON CLIENT SITE
BOOZ ALLEN EMPLOYEES: 957

BY THE NUMBERS

+ **1ST**–Largest Naval fleet in the world
  + 53 Ships
  + 120 Tenant Commands
  + 35,000 Sailors, Soldiers, and DoD Civilian Contractors
  + Accounts for 5% of all Civilian Jobs
  + DoD Contracts account for 15,000 unique businesses
+ **2ND**–Largest city in California
+ **8TH**–Largest city in America

PARTNERS, IN PHILOSOPHY & PROXIMITY

At the mouth of the San Diego Bay, the city's industrial hub that supports a community of 15,000 businesses, sits the Space and Naval Warfare Systems Command (SPAWAR) base. After a 20-minute cab ride from Market Street, I find myself facing the massive SPAWAR facility on Point Loma, an inlet across the bay and west of downtown. More factory than base, grey buildings loom overhead and industrial-grade vehicles troll the roadways. It's always busy. Whether its engineers constructing microsatellites for communications systems, or big data analysts designing new programs to improve intelligence and surveillance processes, the base is a nerve center for the U.S. Navy. And Booz Allen is an essential fiber in its operation.

"You really feel a partnership with your client," says Andrew Regehr, a Booz Allen Senior Consultant supporting a next-generation tactical satellite communication project for the Navy. "You have a common mission, and you co-create together to accomplish it." Believing in that joint-ownership of their client's mission inspires Booz Allen people at SPAWAR to push new solutions. That commitment to co-creation reflects Booz Allen's *essential partner* approach to solving big problems, and is a linchpin of our innovation philosophy.

"We sit at the table with clients every day," says Principal and Navy Communications Office acquisition lead Jennie Brooks. "They come to us with a problem and say, 'You know, I've been looking at this,' and we take it, and break it apart. For me, these interactions are where innovation happens." With 90 percent of Booz Allen's San Diego staff sitting on client site locations—mostly at SPAWAR—opportunities for client face time abound. And the clients at SPAWAR aren't just looking for the status quo. "They expect me to push them," continues Jennie. "They need me to find that new solution."

SAN DIEGO BROUGHT TOGETHER

The next morning, back at the Gaslamp Quarter, the streets are empty. The 73-degree temperature, the cloud-free skies, and the salt in the crisp Pacific breeze suggest that I still have plenty ahead of me. I hail a cab—again—and quickly ride up to 3rd Ave & Ivy Street, where I meet Jennie and walk up the steps of an old building. Here rest the headquarters of San Diego's *Daily Transcript*, the foremost source of daily business news in San Diego for more than two centuries, but sadly, a publication that printed its last edition on September 1, 2015.

SPAWAR

DEFINITION: SPAWAR (pronounced spa-wôr) Provides hardware and software to connect our warfighters at sea, on land, and in the air, supporting the full lifecycle of product and service delivery from the initial research and development, to acquisition and deployment, to operations and logistics support.

DEFENSE DAILY ROUNDTABLE

DATE: Summer 2015

PARTICIPATING ORGANIZATIONS:

+ **BULLDOG DRUMMAND**–Innovation consulting firm
+ **MINGLE LLC**–Talent recruitment startup
+ **CAREFUSION**–Healthcare Solutions
+ **SPAWAR**–Office of Research and Technology Applications
+ **GET ENGINEERING CORP**–Engineering Firm providing tactical data solutions

SAN DIEGO-BASED INCUBATORS & ACCELERATORS

+ Bio, Tech and Beyond
+ EvoNexus
+ FabLab
+ Hera Hub/Hera Labs
+ JLabs–San Diego
+ MakerPlace
+ Wireless Health Hub

On the second floor, Karen Dahut, Executive Vice President and group lead of Booz Allen's Strategic Innovation Group, and Executive Vice President Steve Soules, Booz Allen's San Diego regional office lead, are chatting. They're gearing up for a roundtable talk with representatives from the Navy, academia, as well as local startups and incubators.

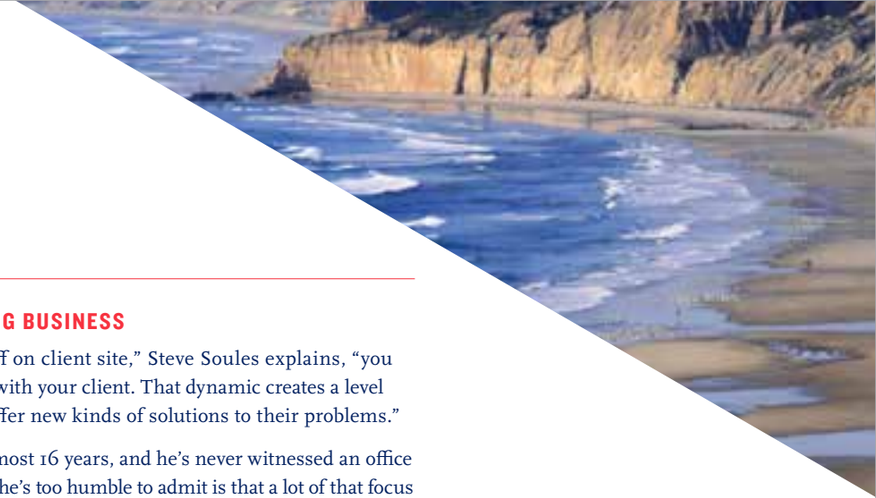
These local stakeholders comprise a group focused on building transformative solutions for the community. "I truly believe," Karen begins, "that if we could put forward some of the hard, knotty problems that the government is challenged with and allow the innovation ecosystem to chew on them, some really amazing things could happen."

Karen believes, as does Steve, that modern government challenges require fresh insights. Activating and inspiring millennials—who now make up the largest cohort of workers in America—to work in technical government industries like naval engineering is essential to driving new economic growth throughout the nation, particularly in science, technology, engineering, and math (STEM) industries.

For Karen's part, she is eager to raise the cohort of millennials working at Booz Allen. During the event she mentions the Summer Games, a Booz Allen internship where college students tackle real client problems. It's one of the reasons this generation of digital natives views Booz Allen as an exciting company to work for. San Diego has embraced this recruiting philosophy, and Peter Peinado is about to prove that.

HANDS ON AT SPAWAR

Senior Consultant Peter Peinado has only been with Booz Allen for 10 months, but already he's having an impact. "I'm in between a business analyst role, and a technical role," he says. "A lot of what I do involves going out and talking to those people that work with the high tech equipment of the naval fleet." Peter gets to be hands-on with his client, regularly traveling between SPAWAR and various naval outposts around San Diego. He sees the devices he builds in action, visiting Sailors and repairing specific facilities. He gets to create new things and work on projects that dramatically depart from Excel.



A FOCUSED OFFICE, A GROWING BUSINESS

"When you've got a majority of staff on client site," Steve Soules explains, "you develop really strong relationships with your client. That dynamic creates a level of trust that lets you explore and offer new kinds of solutions to their problems."

Steve has been at Booz Allen for almost 16 years, and he's never witnessed an office as focused as San Diego's. But what he's too humble to admit is that a lot of that focus is due to his leadership. When he first moved out to lead the San Diego team in April 2014, he was tasked to grow a portfolio of business dominated by one industry.

"My first objective was to add more to our base business," he says. "How could we make incremental changes that help our clients' solve their missions and add to our revenue?" As a start, Steve assessed other aspects of Booz Allen's business to see how he could incorporate Booz Allen's growing line of products into existing contracts.

Inviting over 600 participants, Steve hosted a West Coast product gallery event for clients, employees, and alliance partners to educate them about Booz Allen's growing suite of products. "It definitely led to follow up work. We're working on getting our products out into our clients' hands right now," Steve says.

PRODUCTS & PRODUCTIVITY

In December 2014, Booz Allen hosted a product gallery in Washington, D.C, some 2,200 miles away from California. That product gallery inspired Steve to bring a product gallery to San Diego. With the help of Principals Jennie Brooks, Joann Jacques, and Hillarie Flood, reporters, employees, and Naval clients witnessed firsthand the new ways Booz Allen builds original value.

These products allow the company to serve the Navy in new ways—imagine how a health analytics data visualization product could aid Sailors deployed overseas, where risks of virus and disease grow and deep insights into population health remain murky. Imagine how much safer and more effectively the nation's ships, submarines, and planes could operate with the improved decision-making that Argo™ offers. Imagine the possibilities of an entire ecosystem of Sailors, Marines, local entrepreneurs and scientists alike teaching themselves analytic tenets with Explore Data Science.

Booz Allen has served the Navy for 75 years, and thanks to the efforts of motivated company leaders like Karen and Steve—spreading thought leadership and bringing visibility to an audacious new way of looking at client service through co-creation, technology, and products—Booz Allen is leading the way for the Navy to protect the seas, land, and air for another 75.

BOOZ ALLEN WEST COAST PRODUCT GALLERY

+ **DATE:** February 10-12, 2015
+ **LOCATION:** San Diego Convention Center
+ **ATTENDEES:** 200 attendees
+ **BOOZ ALLEN PRODUCTS FEATURED:** 24 Including:
  + **POLARIS:** Real-Time Financial Analysis Solution
  + **ARGO™:** Analytics Decision Support Software
  + **CYBER4SIGHT®:** Predictive Threat Intelligence Services
  + **PROJECT JELLYFISH:** Open Source Cloud Broker Platform
  + **EXPLORE DATA SCIENCE:** Data Science Education Platform

SEATTLE

THE SOUND OF SMART

BOOZ ALLEN IN SEATTLE

BOOZ ALLEN EMPLOYEES: 120
OFFICE LOCATION: DOWNTOWN SEATTLE

+ 16 Minute walk to the Sound
+ 8 minute drive to the Gates Foundation headquarters
+ 2 Blocks from Amazon's Blackfoot office
+ 1 rock toss from Nordstrom Corporate headquarters

Cradled within evergreen pine forests and the tranquil waters of the Puget Sound—a complex estuary that zigzags its way toward the Pacific Ocean—sits Seattle, WA. From the Puget, the city skyline raises high over the distant Mount Rainier, an active volcano and highest peak in Washington state. Downtown, Seattle's historic Space Needle similarly erupts skyward from a forest of concrete and glass. It's a horizon-piercing reminder of the Emerald City's soaring ambitions.

Seattle is the de facto center of commerce, culture, and creativity for the Pacific Northwest. While its residents boast about finer pleasures—their coffee, their fish, and their beers—its examiners label it America's No. 1 "smart city," as a result of its green buildings, clean transportation and technology, and highest percentage of college graduates of any major U.S. city. Secure in their intelligence, Seattleites will sooner ask about your favorite coffee roaster than what you do for a living, as they cheer for the Seahawks and celebrate the proud nostalgia of early-nineties grunge.

Yet above the cacophony of fishmongers at the Pike Place Fish Market, you can hear tech-focused business deals and witness handshake contracts pledged over craft beers. Though the city might seem relaxed, make no mistake: here, the distinction between personal and professional intertwine like the Puget's channels and inlets or the home screen of an executive's tablet.

BOOZ ALLEN'S OWN STARTUP SPACE

In the heart of downtown, just blocks away from the Sound, is 720 Olive Way, the headquarters of Booz Allen's Pacific Northwest work. "It's important to have a place that you can come and feel comfortable to have your ideas percolate," says Associate Eric Jones. It's from this tower of tinted glass and red bricks that Eric

and more than 100 other Booz Allen staff from mostly from local roots—many attended University of Washington and Seattle University—exemplify the city's entrepreneurial spirit. They have to. There are few Booz Allen client buying centers (though significant operational missions) located in Seattle. Instead, the goal is to connect the smartest city in America and the people who work there to Booz Allen's toughest client challenges. These currently include developing original Counter Improvised Explosive Device (IED) techniques, undersea dominance, and cloud services.

JOINT BASE LEWIS-MCCHORD: 47 MILES FROM DOWNTOWN SEATTLE

Ninety minutes south of Seattle is Joint Base Lewis-McChord (JBLM), a combination of the Army's Fort Lewis and the Air Force's Fort McChord that looks more like a small town than a military base. Overlooking the southernmost tip of the Puget Sound, from here you can see the Tacoma Narrows Bridge, Anderson Island, and, on some days, even orca whales. "Usually there are more seals," notes Lead Associate Robert Haymans, who manages our Counter Improvised Explosive Device (IED) work at JBLM.

Adjacent to a handful of freight containers near the edge of the base sits the Forces Command Counter-IED Integration Cell (FORSCOM CI2C), one of Booz Allen's major Seattle-based clients. Here, Soldiers learn to protect themselves from deadly IED attacks through intelligence gathering, and in-field training via an urban warfare environment simulation designed by the FORSCOM CI2C team.

CHEAP, INTRICATE, & DEADLY

"There are very few facilities like it," Robert says. "Now other organizations are asking for something similar," he continues as he gestures toward a two-story house built where Soldiers simulate building infiltration and room-clearing tactics. Nearby, a reconstructed urban village trains Soldiers to spot the dangerous disguised among the normal—an unusually low-riding vehicle carrying a payload, or a wire sticking out of a pile of trash.

One of the houses contains what the Booz Allen team at JBLM calls an, "IED training school." Down a long hallway, you'll find tangled wires, coke cans, and yellow cooking oil bottles—all innocuous containers designed to conceal IEDs. Christmas lights are used as fuses. Pressure cookers deliver payloads. These Rube Goldberg inventions can be hidden under embankments or buried under rocks. "The scary thing about these devices is how easy they are to make," says Associate Andy MacLennan. "They're constantly changing the way they make them. They make changes that cost them 10 cents, but can cost us millions to address."

A CITY OF COFFEE & NEW IDEAS

+ **FAMOUS FOR:** Coffee, fish, beer, the Seahawks, the Space Needles, Puget Sound, Experience Music Project Museum,
+ **11TH LARGEST** metropolitan economy in the United States
+ **FORTUNE 500 COMPANIES AROUND SEATTLE:** Microsoft, Amazon, Starbucks, Nordstrom, Costco, Boeing, and T-Mobile
+ **MAJOR ACADEMIC INSTITUTIONS:** University of Washington, Seattle University
+ **NUMBER OF STARTUPS AS OF 2014:** 1,497
+ **PATENT APPLICATIONS FILED WITH US PATENT OFFICE IN 2014:** 3,752

JBLM COUNTER IED TRAINING FACILITIES

NUMBER OF CLASSES TAUGHT: 10
CLASSES INCLUDE:

+ **TACTICAL QUESTIONING**–Introductory course in direct questioning, interpersonal skills and techniques to best use an interpreter.
+ **THE IED RECOGNITION LANE**–Classroom training with a practical exercise of detecting IEDs in a simulated environment.
+ **BIOMETRICS OPERATIONS SPECIALIST COURSE**–Includes Biometrics Automated Toolset (BAT), and Secure Electronic Enrollment Kit (SEEK II) systems. Hands-on modules target the theory and employment of all systems and data management.
+ **MAN-PORTABLE LINE CHARGE**–Covers setup, operation, and tactical employment using an inert rocket-launched explosive line charge. Designed to expose or disrupt explosive hazards and trip wires.

TAKING A DIP WITHOUT LEAVING YOUR DESK

Want to take a dive into the Marinas trench? Back at the Olive Way office, Associates Ian Byrnes and Eric Jones are working to make that a reality. Well, at least a virtual reality. Project Marlin creates multi-dimensional renderings of undersea environments, based on open source NASA topographical and National Oceanic and Atmospheric Administration bathymetric databases. It's more than a simple 3-D "Google Earth" type rendering. It integrates with the Oculus Rift, a virtual reality headset equipped with a joystick, so you can feel yourself submerging deep into the Pacific Ocean, or scaling to the top of Mount Everest.

What's more, Project Marlin can layer multiple data sets to render the most high definition image, and even has the capability of injecting real-time data into the rendering. "Basically, Marlin is a foundation for showing off different scenarios in a 3-D virtual simulated environment," Ian says. "It isn't limited to the subaquatic."

"Our challenge in Seattle is that there aren't large buying centers here. Money is spent here, but not controlled here. To succeed locally we have to look at the clients we have here, and determine how their needs can be added to larger national contracts."

—NIRAV DESAI
CHIEF TECHNOLOGIST
ON DEVELOPING REVENUE STREAMS IN SEATTLE

PROJECT MARLIN

+ A program to create 3D virtual simulated environments
+ **WHERE IT CAN TAKE YOU (VIRTUALLY):** Bottom of the Pacific Ocean to the top of Mount Everest

One of Eric's aspirations for Project Marlin is to integrate it with Project Orca, a helmet that can let divers see even in the murkiest of waters. "When you integrate the bathymetric data collected by Project Marlin with sonar equipment," he says, "you can render them into a 3-D model that lets you look around an object even if the water is keeping you from seeing." This can be used for exercise planning, visualizing intelligence, training, and navigation of unmanned undersea vehicles.

While still a proof of concept, Project Marlin demonstrates what happens when both geography and a city's culture influences technology. The Puget Sound, Mount Rainier, Lake Washington, and the evergreen forests around Seattle give Marlin immediate applications from deep-sea marine scientists to mountain climbers. And its open source integration mirrors the sentiment of "goodwill" that stretches across the city's flag. Yes, Project Marlin, and the rest of Booz Allen's work here, is proof of our ambitions in America's smartest city.

NORFOLK

OCEANS & STARS

Bright summer skies hover over the blue hues of the Mid-Atlantic, while seagulls flap over hulking grey battleships docked at one of the great gateways to the Eastern seaboard.

But in Booz Allen's Norfolk, Virginia, office—just a short drive from the world's largest naval base—it's no typical Monday.

The doorway to the new fourth-floor innovation space is so crammed I can hardly make it inside. Peering over the shoulders of the 40-plus people packing one side of the brightly lit room, I see a red ribbon stretching wall-to-wall across an open and airy space. Situated in the center of the office floor and with entrances on two sides, it feels like a nerve center—a central hub to collect, refine, and mold raw ideas from across the office.

But it's not the gleaming new LCD screens positioned over long team worktables that make the space exciting—it's the palpable energy of a crowd eager to experiment and play with ideas in a space where integrated, ubiquitous information sharing will become the norm.

With the snip of scissors, the ribbon falls, and the crowd surges into the room for conversation and celebration over finger foods and soft drinks. At each team workstation, participants enjoy interactive demonstrations of new office initiatives, including Norfolk-specific HR training and intranet sites, as well as a 3-D portfolio management mobile application recently developed for NASA.

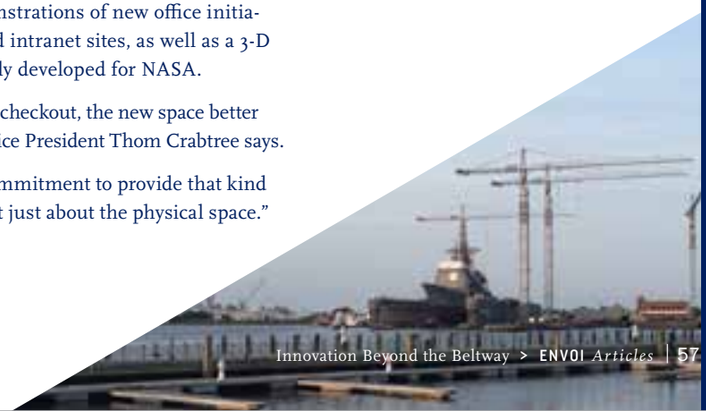
Formerly five unassigned offices available for daily checkout, the new space better represents the spirit of the Norfolk office, Senior Vice President Thom Crabtree says.

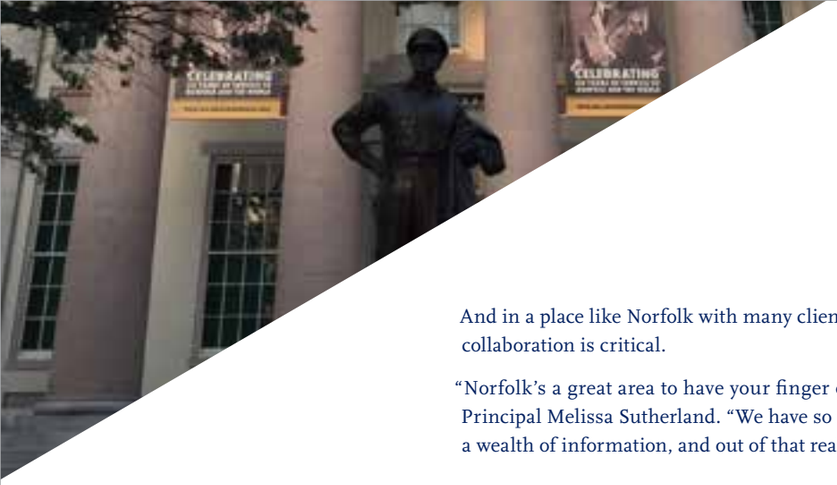
"This is a tangible realization of our continued commitment to provide that kind of collaborative environment," he says. "This isn't just about the physical space."

BOOZ ALLEN IN NORFOLK

BOOZ ALLEN EMPLOYEES: 700
WORK ENVIRONMENT: 70% ON CLIENT SITE
NEW COLLABORATION SPACE OPENED: JUNE 22, 2015
CLIENTS SUPPORTED (SAMPLE):

+ Naval Special Warfare Command
+ U.S. Army Training and Doctrine Command
+ U.S. FLEET forces command
+ Air Combat Command
+ NASA Langley Research Center





And in a place like Norfolk with many clients, chiefly in defense, that culture of collaboration is critical.

"Norfolk's a great area to have your finger on the pulse of what's going on," says Principal Melissa Sutherland. "We have so many clients here from which to draw a wealth of information, and out of that really distill the common problems."

REACHING FOR READINESS

Even with its maritime focus, the Navy maintains a sizable contingent of expeditionary forces—21,000—that it deploys to conflict and disaster zones worldwide. Principal Autumn Kosinski leads work in Norfolk developing mission readiness software for this force, the Navy Expeditionary Combat Command (NECC), based in nearby Virginia Beach.

Around the world, NECC commanders with diverse mission requirements need properly trained and properly equipped forces, ready to arrive with the right capabilities at the right time.

"Readiness is a complex problem. Missions are evolving. Threats are evolving. And there's differences between what's demanded and what's available," she says.

Starting with a small idea, a team in Norfolk developed a large enterprise software system that helps commanders manage risk and optimize their resource allocation in real time.

Booz Allen is now expanding the platform into Navy medicine and other forces, using the same ideas and concepts, Autumn says. "The camaraderie and orientation of this office is so tight, it helps us have a broader understanding of those missions. We have total immersion in the clients' needs."

APPLIED INNOVATION, MOBILE APPLICATION

With 25 years at Booz Allen, and four working at the NASA Langley Research Center in Hampton, just north of Norfolk, Lead Engineer Chris Munk is intimately familiar with his client's challenges.

Two years ago, when Booz Allen invested in the Mission Systems Engineering Environment Mobile app, Chris saw the opportunity to apply the platform to challenges for his client, the Game Changing Development (GCD) Program within NASA's Space Technology Mission Directorate.

"We have a special team here," Chris says. "Many of us have been together for years. As part of that, we understand the different capabilities and have a thirst to network and find out what's going on."

AN APP FOR THE STARS

Booz Allen's GCD Mobile app is now available on the NASA app store. Yes, NASA has an app store.

Over eight weeks, Chris' team developed a prototype app, called GCD Mobile, which provides 3-D visualizations of GCD's portfolio of projects, technologies, and tasks, helping users manage execution, cost, and schedule. In fact, GCD Mobile was so successful that it became the first mobile app tailored for the client now available on the NASA app store.

"This is an excellent example of how the Norfolk office capitalized on a small innovation investment and was able to reuse it for our NASA client to quickly deliver capability in a short time frame," says Melissa.

THE CDC YOU'D NEVER KNOW

The Navy and Marine Corps Public Health Center (NMCPHC) in nearby Portsmouth is essentially the Centers for Disease Control for the Navy. From epidemiology and health surveillance to preventive medicine and public health, the NMCPHC covers it all.

"Their capabilities are tremendous, but we knew we could partner together to help take their story to the next level," says Lead Associate Christine Suter.

Beginning in 2012, Christine's team began work to enhance the NMCPHC's communications capacity. Today, the center uses a dynamic combination of infographics, social media, email, newsletters, blogs, and articles to disseminate critical health information to health professionals and Sailors.

SUPPORTING COMMUNITY CREATIVITY

As executive director of the Center for Enterprise Innovation at Old Dominion University, and the former director of the first technology incubator in Virginia, Marty Kaszubowski knows a thing or two about startups.

"I've been talking about entrepreneurship in the Norfolk area for 20 years, mostly to blank stares and deaf ears," he says. "But that's changing."

Marty is working to create multiple innovation centers throughout the Hampton Roads region. The first is set to open shortly in Norfolk, with others eventually in Virginia Beach, Suffolk, Newport News, and other municipalities. Each city is connected, he says, but maintains its own identity and microeconomy.

"We said, 'Let's go to the individual cities, and let's do something that's reflective of their culture, attitude, look, feel, and smell,'" he says.

Eventually, Marty hopes for an "entrepreneur in residence"—potentially a Booz Allen employee—to mentor startups in each of the centers. Discussions with Booz Allen's Thom Crabtree, who leads the innovation agenda for the local nonprofit Greater Norfolk Corporation, are helping get the effort under way, Marty says.

NMCPHC HEALTH FACTS:

+ 3,000 copies of "Hooked on Hookah" infographic placed in Navy Logistics Library
+ NMCPHC Facebook page has more than 33,000 likes, in 2012 it had 192
+ "Friday Facts" health newsletter reaches 5,000 recipients, up from 600 in 2012
+ 30+ webinars held since 2012, with 1,100+ attendees

BOOZ ALLEN NORFOLK COMMUNITY CONNECTIVITY:

+ Sponsors Old Dominion University chapter of Society of Women Engineers (SWE)
+ Partners with Girl Scouts for SWE patch, holds engineering workshops for girls
+ Mentors Virginia FIRST (For Inspiration and Recognition of Science and Technology) robotics team at local high school
+ Participates in Polar Plunge for Special Olympics Virginia
+ Sponsored Operation Homefront "Star-Spangled Babies" baby shower event

RAPTOR

HUNT DOWN THE WEAK SPOTS

Bottlenecks, weak links, and wear and tear not only affect your system, but ultimately, your bottom line. With Raptor, you can hunt down weaknesses to optimize your system and save you valuable resources.

START THE HUNT AT WWW.BOOZALLEN.COM/CONSULTING/PRODUCTS/RAPTOR

NATIONAL DATA SCIENCE BOWL

SWIMMING IN SCIENTIFIC WATERS

From December 2014 to March 2015, the National Data Science Bowl—co-sponsored by Booz Allen and Kaggle—brought a community of data scientists together to assess the health of our oceans.

In just 90 days, almost 1,300 data scientists produced more than 15,000 submissions and generated $4 million in probono marine research. The winning team developed an algorithm that automatically classifies images of plankton and rapidly analyzes data sets that would have taken two marine biologists their entire lives to complete by hand.

National Data Science Bowl YouTube video:
www.youtube.com/watch?v=6umozO0hz4M

WHAT GLOBAL PROBLEM WILL THE NEXT DATA SCIENCE BOWL SOLVE?

Visit **www.datasciencebowl.com** to find out.

AUSTIN
Texas

1,311
mi

AUSTIN

THE SOUTHWEST'S TECH OASIS

SMALL STARTUPS, MEET BIG BUSINESS

+ 46 Incubators, accelerator, maker and co-working spaces
+ 4,744 High-tech companies
+ 162 Investor deals in 2015 so far
+ $1Bn+ Invested in Austin in 2014
+ 62% Texas venture capital dollars went to Austin-based startups in 2014

CAPITAL FACTORY: AUSTIN'S CENTER OF GRAVITY FOR ENTREPENEURS

+ **LOCATION:** DOWNTOWN AUSTIN, TX MEMBERS: 780+ STARTUPS
+ **SPACE:** 55,000 SQUARE FEET
+ **EVENTS:** 720 IN 2014
+ **EVENT SPACES:** 3
+ **PARTNERED WTIH BOOZ ALLEN:** 2014

"Hey, would you mind grabbing that box? We should probably head up soon," says the man in the black cowboy boots. We're heading to a career fair that Booz Allen is sponsoring on the 16th floor of the Capital Factory building in downtown Austin. His name is Chris Hample, a cool, calm Senior Lead Technologist who co-leads the Austin office and never seems flustered.

On our way out of the cozy 5th floor office space that the Booz Allen team of 10 recently moved into, we bump into Lead Associate John Sherman, the other co-lead in Austin.

"Hey John, how was San Antonio?" Chris queries. Like one or two others, John splits his time between the team in Austin and a cyber security project for an Air Force client in San Antonio.

"Great! The presentation went well. I'll see you guys up there soon. I gotta change first." He's wearing slacks, dress shoes, and a blue button down with no tie. To a guy from D.C. he looks business casual. In Austin, however, he's overdressed and doesn't want to scare off the data scientists, developers, and DevOps whiz kids that have swarmed into the city in recent years.

While I didn't know it at the time, I would soon be actively recruiting technical specialists for Booz Allen at one of Capital Factory's regular career fairs. I thought I was here to observe, but I was going to have to pitch in. It's typical Austin. It's what people do here. They go out of their way to help those with good ideas.

"Man I wanted to talk to those Booz Allen guys, but there was such a long line. I'm happy I waited though."

—CAREER FAIR ATTENDEE

THEY'RE CRAZY FOR STARTUPS

No, really. I'm not affirming that because Booz Allen is a partner with Capital Factory. Downtown Austin is crawling with technology startups. The city's Chamber of Commerce is almost single-mindedly focused on transforming Austin into an oasis for tech startups. You're just as likely to meet someone pitching his or her tech idea to an investor, as you are a barista or bartender. And Booz Allen is right in the thick of it all.

A NEW MODEL

Four miles south of the Capital Factory down I-35 is the Austin Information Technology Center. It's where Chris, John, and a small, tight-knit cohort of Booz Allen technologists built a cloud brokerage platform for a federal health and benefits agency. "It was a good project," says Chris, "but when the contract ended after the platform was delivered [in 2014], we didn't have an office and we were scrambling."

For a few months they worked remotely and met up at coffee shops for team meetings. Yet, by the time they moved into 701 Brazos Street they had invented a new model for Booz Allen.

Traditionally, Booz Allen moved to where the clients were. Our presence in San Antonio is a quintessential example of this. That model isn't going away. But Booz Allen didn't have any clients in Austin once the cloud broker work finished. We were just close to the talent.

For Booz Allen, Austin represents a model built around the concentration of talent rather than clients. It's additive to the conventional model. It actively places Booz Allen among the talent and capabilities it seeks to recruit and incubate. And it's working.

LONG LINES AT THE CAREER FAIR

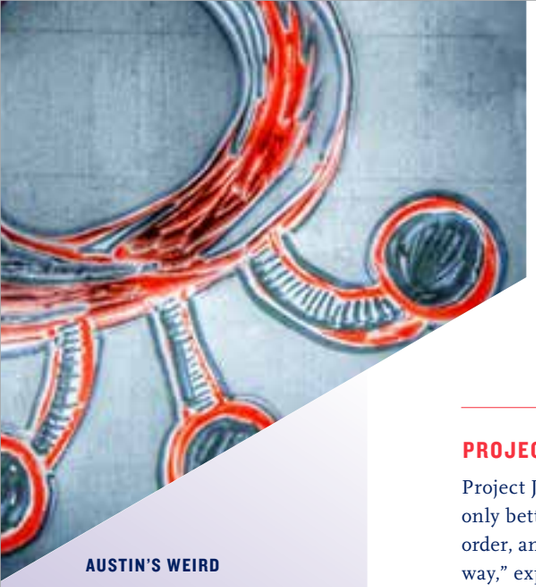
+ **DATE:** Mid-Summer, 2015
+ **LOCATION:** Capital Factory, Downtown Austin
+ **SPONSORS:** Booz Allen, Indeed.com
+ **COMPANIES HIRING:** 8
+ **RESUMES RECEIVED:** 44

5 REASONS WHY BOOZ ALLEN WORKS IN CAPITAL FACTORY

1. **CONNECT THE BEST TECHNOLOGY TO THE HARDEST CHALLENGES**–What better way to find those technologies than to work side-by-side with the startups developing them?
2. **CONTRIBUTE TO THE COMMUNITY**–Chris and John are always asking for ways Booz Allen can make the biggest impact for the startups in Capital Factory.
3. **IT'S WHERE THE TALENT IS**–Technologists want to work in Austin: In fact, 150 people on average move to Austin every day, and 415,000+ students live within 100 miles of the city.
4. **FEEL CONNECTED TO TECHNOLOGY**–Lead Engineer Kevin Kingsbury said it best, "Everyone who works here feels like they have their finger on the pulse of the Austin tech scene."
5. **WORKPLACE VIBE**–The collaborative atmosphere to work.

THEY GRIND.

In Austin, everyone's a recruiter. Being technically minded and smart, however, is table stakes. Being a cultural fit while having your own perspective is what gets you hired.



Learn More about Project Jellyfish at:
www.projectjellyfish.org

PROJECT JELLYFISH—OPEN SOURCE CLOUD BROKER

Project Jellyfish is kind of like the Kelley Blue Book (KBB) for cloud services—only better. "It's a way for business leaders and project managers to compare, order, and organize all their cloud services and environments in a policy driven way," explains Chris.

Like cars on KBB, Project Jellyfish lets users compare cloud environments by the things they care about, such as cost, security, and provider. But beyond KBB, it also lets you manage those services once you've brought them.

And it's all open source (something the Austin tech community loves almost as much as live music and BBQ). Anyone can download a version of Project Jellyfish, and anyone can build a module plug-in to advance the community.

As Chris notes, "It's better when the partner builds the module. We want them to feel part of the community. That's important to us here." In fact, they're currently working with a group from Microsoft to build an Azure connector module.

AUSTIN'S WEIRD

It's a town of contrasts. It's sports mad but has no professional teams. It's the capital city of the most oil-rich state in America but doesn't produce much oil itself. It's the fourth-largest city in Texas but feels like it has a small town chip on its shoulder. Yes, Austin's weird.

THE AUSTIN TEAM

The Austin team is a technical shop, which makes it easier to work remotely. The 10 Austin-based staff work with clients in San Antonio, TX, Chicago, IL, and the Washington Metro area, as well as on Project Jellyfish—Booz Allen's open source cloud broker platform.

SXSW

I met Katie King, who leads sales for SXSW Interactive, at a Starbucks across from Whole Foods' flagship store. Bohemian and razor-sharp in equal measure, her wit mirrors both the city and the festival.

For those still unfamiliar, SXSW is a weeklong festival celebrating music, film, and interactive. It's where Twitter launched in 2007, and where organizations from tech startups to city governments flock to share ideas and generate business leads. It's fun, weird, wacky, and inspiring according to Katie, who likens the festival to a bottle of creative concentrate—to her, life in Austin is merely a dilution of SXSW.

But for all the sounds, and smells, and attractions, SXSW has an economic agenda. According to Lead Associate JD Hannick from the Boston office, Booz Allen generated several new business ideas from its attendance at SXSW 2014. Today, everyone from film critics to business executives, music fanatics to city governments flock to the event for inspiration.

The difference is, once the festival finishes, nearly everyone flies back to their respective cities. Except Booz Allen. We're now undiluted in the Southwest's tech oasis.

KATIE KING'S 3 TIPS FOR SXSW

1. Make a list of the things you really want to see
2. Go in with an open mind
3. Lose the list and go with the flow

LOS ANGELES

THERE'S NO BUSINESS LIKE ~~SHOW~~ ENGINEERING BUSINESS

Step outside Los Angeles International Airport (LAX) in the summer, and you can feel the heat. You can even see it sizzle up from the concrete and dissipate above the palm trees and yellow streetlamps. Accompanied by the tireless horns coming from the stop-start traffic on nearby Interstate 405, and the sustained rumble of nearly 700 daily flights into and out of LAX, the City of Angels greets every new traveler with a thick haze of heat and noise.

But push past the airport terminal gates, and you'll land in the nation's second largest metro area. Nearly 13 million people live among the sprawling 4,850 square miles of strip malls, warehouses, corner taquerias, burger joints, palatial mansions, auto-body shops, and office buildings. Downtown's gleaming sky-scrapers are studded against the looming (and sometimes snow-capped) San Gabriel Mountains rising up to 10,000 feet to the north, mirrored by the San Bernadino Mountains to the east.

As the global hub for movies, television, and music production, celebrity sightings are a dime a dozen in a town that's home to all six major film studios. In fact, it's estimated that one in every six LA residents works in "the industry," as the creative sector is known locally, all the way from marquee A-listers to set designers, camera operators to production assistants.

But for those in the know, there are new "industries" pushing their way into the limelight. Twenty-five miles south of the Hollywood sign and just a mile from LAX, a crew of 120 Booz Allen engineers is directing the up and coming aerospace and cyber security scripts.

BOOZ ALLEN IN LOS ANGELES

OFFICE LOCATION:
LOS ANGELES, CA 90045
BOOZ ALLEN EMPLOYEES: 180
CAPABILITIES: ENGINEERING, SOFTWARE DEVELOPMENT, CYBER, GPS, RISK ASSESSMENT

KATANA

An enterprise cyber security risk management tool that helps agencies make decisions that conform to Department of Defense Information Assurance Certification and Accreditation Process.

APPLIED SYSTEM/SOFTWARE SECURITY EVALUATION TOOL SUITE (ASSETS)

A data correlation tool that gathers thousands of requirements for the independent evaluation of an organization's cyber threats.

OUR ENGINEERING REEL

Booz Allen's Pacific Concourse Drive office is in a three-story concrete building on a fountain- and flower-filled cul-de-sac, anchored amid a sea of car dealerships, industrial lots, and endless residential neighborhoods of single-story bungalows. Just 10 minutes away, up South La Cienega Boulevard, sits the famed Randy's Donuts, an LA landmark with an unmistakable 30-foot circular pastry adorning the roof.

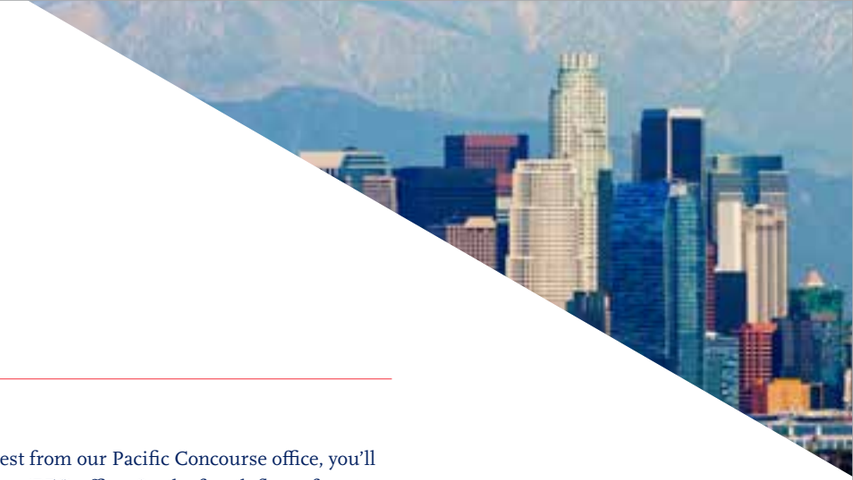
Inside, the space resembles other small production studios in the city. Individual offices outline the perimeter, with two large, open collaboration spaces occupying the center. Formerly, these areas were used as conference rooms, until the LA team transformed them into something akin to a "writer's room," where staff can interact and collaborate in closer proximity. They're labeled "Thunderdome" and "The Block."

In each, sitting, standing, and even walking desks line the walls. In the Thunderdome, a mini-basketball hoop was installed, giving the engineers a recess to engage in healthy, playful competition. But it's during these on- and off-work times in Los Angeles that Booz Allen's leading generation of builders work together to improve risk assessment techniques, and develop new tools for clients.

Take Principal Brian Zimmerman, for example. He leads the Los Angeles office and has been a Booz Allen engineer for 17 years. "It [engineering] hasn't always been at the forefront of people's minds when they think of Booz Allen, but it's beginning to grow," he says.

Senior Lead Technologist Sarah Olsen and Senior Lead Engineer Peter Katsumata are part of Brian's new engineering team. Beyond their day-to-day providing risk management, cryptology, and cybersecurity services for defense clients, they're each also working on a pair of programs that assess cybersecurity risks and requirements, called Katana and ASSETS.

Neither Sarah nor Peter, however, feels typecast into only software development roles. "Being a part of a smaller office pushes me to do a variety of things," says Peter. "You learn how to do business development, marketing, writing proposals. We all take a role in those different things." Sarah agrees, and adds: "When you're in an office this size, you're encouraged to reach out across the firm. To be honest, I feel more connected to Booz Allen than I think I might even if I were I working in the McLean headquarters."



LIGHTS, CAMERA, PRODUCTS!

In El Segundo, just a one-mile drive west from our Pacific Concourse office, you'll find the Booz Allen Engineering Services (BES) office. On the fourth floor of 12-story glass building overlooking landscaped lots and the elevated eight-lane Interstate 105, Senior Associate Tony Occhi and his crew are building GPS and communications hardware that adds original value to clients' missions.

In law enforcement and defense, frontline agents and warfighters may need to operate in remote, potentially hostile areas with weak LTE coverage. BES has devised a way for the military and civilian agents to create their own private LTE network, extending their coverage for critical operations. "Imagine a scenario where a rescue team is looking for a lost hiker," explains Tony. "Clip this onto your phone, and it creates a small range of connectivity that could extend to that hiker. If they have their phone on them, you can just call them."

COMING ATTRACTIONS

While the flashing lights of the paparazzi don't follow Booz Allen's Los Angeles stars (at least not yet), these developers and engineers are working as creatively as the producers and show runners you spot on the red carpet. With the passion to carry out tough productions like product development and cyber security, their impact remains long after the cameras are turned off and the spotlight has faded. "We're opening the aperture on what's possible for our clients," Peter says. "But for me, I just get excited when we're making new stuff."

BOOZ ALLEN ENGINEERING SERVICES (BES)

+ **LA LOCATION:** El Segundo, CA, 90245
+ **TOTAL NUMBER OF EMPLOYEES:** 957
+ **LA STAFF:** 60
+ **OTHER PRODUCTS:** Raptor, reliability simulation software, NEMESYS, network modeling and visualization tool

#WHAT IF 2015

DATE: FEBRUARY 2015
LOCATION: WASHINGTON, DC
PARTICIPANTS: 635
PRODUCTS SHOWCASED: 4—POLARIS, GLOBAL4SIGHT, VAMPIRE, DVR
IGNITE SESSIONS: 14—IMPASSIONED TALKS ABOUT REAL WORLD PROBLEMS

When Booz Allen Senior Associate Chris Holmes was approached to lead Booz Allen's flagship innovation summit, #WHATIF2015, she knew she wanted to do something different. "The legacy model worked," she says, "but we wanted to evolve it. Make it grow." *And grow it did.*

REAL IDEAS, REAL IMPACT

HOW #WHATIF2015 BROUGHT REAL CHANGE FOR COMMUNITY PARTNERS

By Connor J. Hogan

Among the product pitches, Ignite Sessions, and *Brain Games* host Jason Silva's keynote, #WHATIF2015 challenged over 600 participants to take a critical look at the challenges facing two of Booz Allen's community partners: Miriam's Kitchen and Give an Hour.

"We had already done a lot of work with these non-profits," remarks Booz Allen Associate Amy Wilson. "For Miriam's Kitchen, we focused on preventing veterans homelessness, and for Give an Hour, we wanted to see how we could help out in mental health in the workplace."

BREAKING DOWN THE PROBLEM

Give an Hour — Giving help and hope since 2005

Dr. Barbara Van Dahlen, Founder and President of Give an Hour™, takes the stage at #WHATIF2015 and engages Booz Allen staff.

miriam's kitchen

Booz Allen staff collaborate on new idea solutions in an "Ignite Session" workshop for Miriam's Kitchen™.

The exercise led to many simple, but insightful, observations. For Miriam's Kitchen, the Knight Center contingent realized some veterans were unprepared, and more importantly, didn't know that they were unprepared, for their transition back to civilian life. This lack of situational awareness stemmed from cultural misunderstandings between active service members and civilians. The solution? Approach the transition to civilian life as if it were the veterans' next mission.

A SOLUTION FOR TOMORROW

In what Amy and her team dubbed "Reverse Basic Training," service members preparing to transition back to civilian life would be briefed on potential new struggles, awareness of resources, and the logistics of securing new jobs and homes.

In addition to the Reverse Basic Training concept, Miriam's Kitchen would also connect new veterans to others that have already transitioned so they could gain support, mentoring, and advice from someone who has firsthand experience on what they're going through.

And these solutions aren't just sitting in some PowerPoint deck somewhere; they're garnering real attention and making a real impact. Our work with Give an Hour was highlighted several times in a recent article in *The Washington Post*, and even First Lady Michelle Obama mentioned our commitment to mental health at the March 4th launch of "Change Direction," a new national health campaign sponsored by Give an Hour.

Chris knows this is only the first step, though. "Events like #WHATIF2015 don't change the world, by themselves," she says. " It's what people do after the ideas are generated that matter. We're proof that Booz Allen is always trying new things."

In addition, Booz Allen will be training 11,000 employees on the Five Signs. They're going to be hosting awareness events, convening small group discussions among their staff.

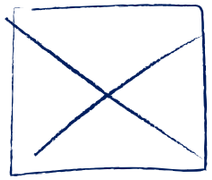
—MICHELLE OBAMA
First Lady of the United States

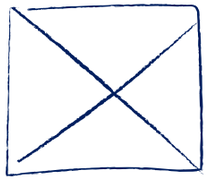
CONTENT

LIKE MANY ECOMMERCE DEVOTEES, I habitually fill up my shopping cart, never to return. Items languish on digital checkout counters for days while I skim hundreds of "similar" products. But how do I decide what to buy?

CONTENT

Slowly my eyes glaze over as I wade through consumer review after customer review. Then suddenly, I wake up and realize I needed to be somewhere over 30 minutes ago.





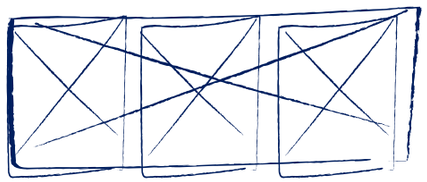
Exasperated, I exit the site and run for the door. No, I'm not a good online shopper. And the chances are you're not either. But it's not our fault. Our brains can't help it.

TITLE

I FOUND UX IN MY SHOPPING CART

By Megan Berke

AD



You see, people have a difficult time making a decision when faced with many options. It's a phenomenon known as "choice overload."

QUOTE

CONTENT

You see, people have a difficult time making a decision when faced with many options. It's a phenomenon known as "choice overload."

Alvin Toffler introduced the term in 1970. In short, the more products we peruse, the harder it is for us to actually buy something.

CONTENT

For government and commercial clients, this idea can often conflict with their "more is better" strategy when presenting information online. Public-facing websites, especially government ones, tend to be content-rich interfaces with information scattered all over the site.

I FOUND UX IN MY SHOPPING CART

BY MEGAN BERKE

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And that's a problem. As the number of elements on a page increase, the time needed for a user to perform a task, learn a system, and remember the pathways increases proportionately. Every time content is added to a site, it becomes harder, and takes longer, for people to act on the additional information. It's like adding more products to a virtual shopping cart. The result is more unpredictable user behavior and lower information retention.

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But here's the good news: intelligent user experience (UX) and information architecture (IA) design can help.

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By limiting the options within a pathway, or reducing the number of options a user can make, developers can nudge people into following their gut instincts over their reason. Strategically constructing an architecture for content and design enables people to more easily consume information. And your users will like you because you're not hurting their head and you're helping them make a decision.

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As consultants, we can apply these ideas when working with clients. Try using taxonomy, concept or site maps, and user (task) flows to help narrow the options within a single space. For example, rather than have six different pages that explain what you need to apply, create a dynamic Application Checklist for the client to follow along.

IA inherently puts constraints on the amount of content within a space, but equally enhances the ability for the user to make decisions and follow the intended path. Those principles of limitations and constraints apply to consulting as well as websites and shopping carts.

THE STARTUP UNIVERSE

By Geneva Castellanos of Capital Factory

AUSTIN, TX attracts ideas. In March, more than 72,000 people were drawn from across the globe to attend SXSW. Tech entrepreneurs have likewise been sucked into the city's orbit. In the last 12 months, more than 30,000 of them have gravitated toward the center of downtown Austin where they collide with investors, employees, and customers.

These collisions aren't serendipitous. They're engineered. And they happen at the offices of Capital Factory, Austin's center of gravity for entrepreneurs.

As an accelerator, Capital Factory has helped Austin's best tech startups secure more than $150,000 in seed funding, $200,000 in server hosting, and introductions to the city's top investors and thinkers.

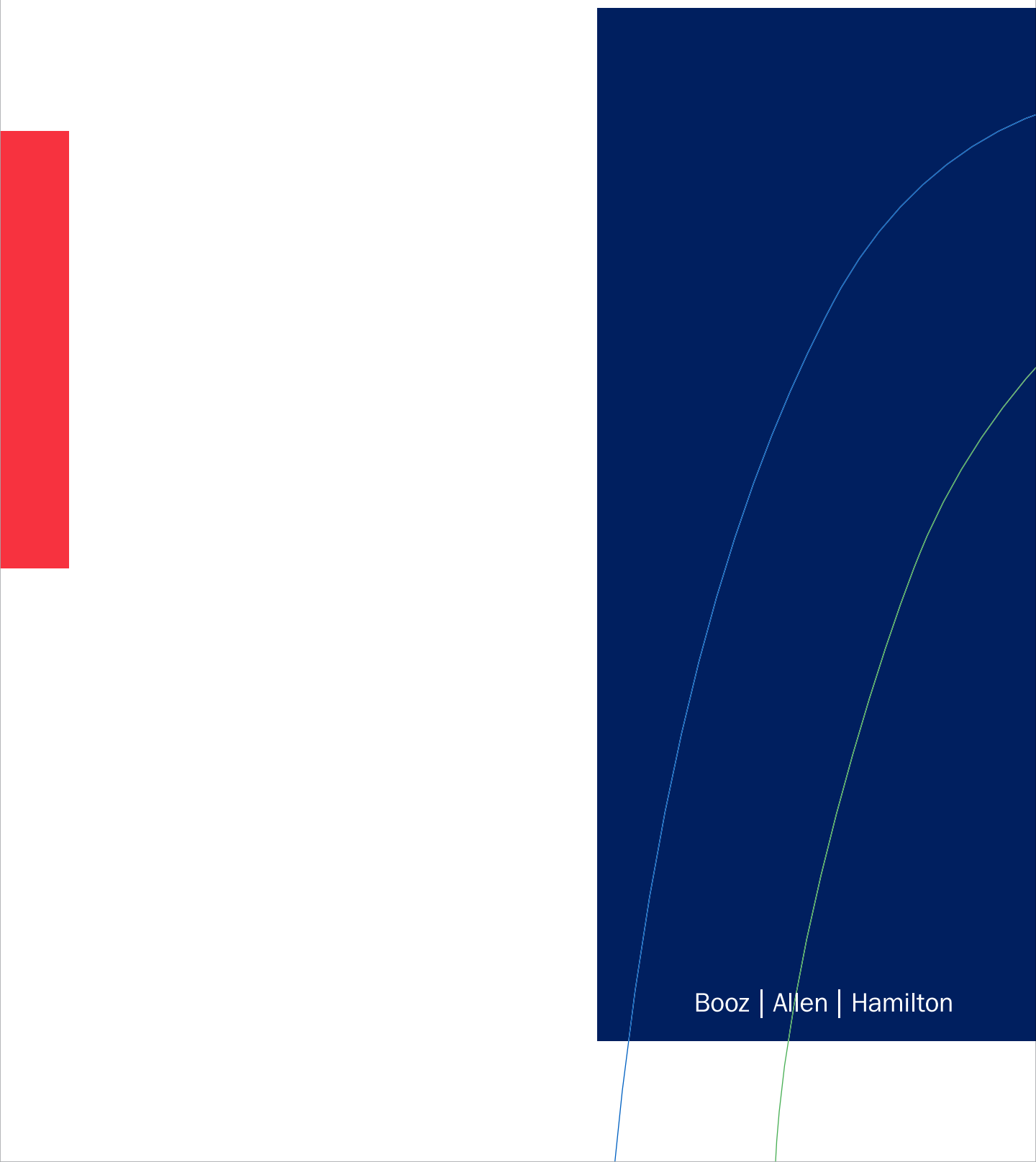
And no wonder. The energy in Austin is a magnet for startups. The city's economy is exploding. In 2013, the Texas capital led the nation in terms of gross metropolitan product growth—the sum of all goods and services produced annually in a city—of 4.6 percent. Many expect Austin to hold that top spot through 2020. And tech startups are at the core of this growth.

As an accelerator, Capital Factory has helped Austin's best tech startups secure more than $150,000 in seed funding, $200,000 in server hosting, and introductions to the city's top investors and thinkers. But we're more than money and handshakes.

Startups need mentors. They need access to organizations and people who know how to build a run a business, and who can connect them to project and customers outside Travis County. It's why we partner with Booz Allen.

Since becoming an Annual Partner, Booz Allen has sponsored numerous events and career fairs to connect entrepreneurs to opportunities. What's more, Booz Allen executives and Capital Factory-located staff participate in office hours to coach and mentor young startups through business challenges, and actively seek to connect their technology and ideas to their federal government client challenges. It's a business opportunity few of our startups have even considered. Access to organizations like Booz Allen is one of the reasons we often see company sizes double, even triple in the Capital Factory network. And as startups expand they eventually outgrow our space. This is exactly what is supposed to happen.

As our companies experience exponential growth, they move into their own office space. (Who knows, some of them may even be as successful as Booz Allen one day.) But few escape the pull of Capital Factory. They continue to orbit our ecosystem as mentors and business partners. It's a self-sustaining startup universe located in the middle of downtown Austin. ⊕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