A (Brilliant) case study

InSTEDD
How do you turn a big, bold, potentially game-changing idea into a reality?

InSTEDD is a small nonprofit founded with an ambitious vision: to create a global alarm system for pandemics. Twelve years in, it’s driving toward its mission — by instinctively following Brightline’s 10 Guiding Principles.
In 1975, Dr. Larry Brilliant stood on a boat in Bangladesh, waving goodbye to a 3-year-old girl who had just survived a terrible disease. Her recovery was notable not just for her and her family — hers was the last case of killer smallpox in the world. Thanks to a World Health Organization (WHO) campaign that went door-to-door to identify cases early, they had put an end to a disease that killed 400 million people in the 20th century alone.

In the years since, Brilliant has made it his life’s work to stop pandemic diseases before they start. He co-founded the Seva Foundation to look at the epidemiological underpinnings of blindness, he consulted on the WHO’s campaign to eradicate polio, and he used his insights on bird flu and SARS to shape the film Contagion. So, in 2006, when Brilliant was awarded the TED Prize — and was given $100,000 and the resources of the TED community to launch a wish for the world — he knew exactly what he wanted to do. He wanted to leverage technology to help.

“My TED wish is based on the common denominator of these experiences. It is so obvious that our only way of dealing with new diseases is to find them early and to kill them before they spread,” he said onstage at TED2006. “My TED wish is for you to help build a global early-warning system to protect us against humanity’s worst nightmares.”

With the prize, Brilliant founded InSTEDD. His initial vision was that it would be a large control room — epidemiology’s version of NASA’s Johnson Space Center — a technology powerhouse, filled with screens updating in real time to monitor outbreaks around the world. “The original idea was that there’d be a top-down, centralized organization that would send people out into the field,” says Brilliant. “What we forgot is that there are people [already] living in the field.”

Twelve years later, InSTEDD is a successful organization making good on its mission. It has created technology that helped Cambodia revolutionize its disease reporting system, that showed government officials in Rwanda, Ethiopia and Tanzania where to build new health centers, that even helped locate people trapped in buildings during the earthquake in Haiti. And yet, InSTEDD’s operating model looks very different than what Brilliant initially imagined. Instead of one top-down control room, it uses a system of local iLabs and workshops that focus on human-centered design and empower local leaders to build the tech tools that will work in their local context to surface potential outbreaks. These tools can then be adapted to work in other countries too.

“When I gave that TED Talk in 2006,” says Brilliant, “it was taking the world six months to find the first case of a virus that jumped from animal to human. Today that’s down to two or three weeks, because of InSTEDD. InSTEDD has become the intelligence inside of all these different surveillance systems.”

InSTEDD’s team didn’t have a map to help them find their way. What they did have was their instincts. Without even realizing it, InSTEDD’s team followed Brightline’s 10 Guiding Principles for bridging the gap between strategy design and delivery. Just imagine what might happen if you followed them more purposefully. Here’s a closer look at how they did it — an inspiration to help anyone rise to whatever challenge they face turning ideas into reality.

ON BRIGHTLINE’S GUIDING PRINCIPLES

We have crafted 10 guiding principles to help leaders shrink the costly and wasteful gap between strategy design and strategy delivery, between great ideas and impactful results. Practices can change, business models are disrupted, technology evolves, but principles do not change. They are the soul that connects strategy design and delivery — they empower people to make dreams come true. They safely guide leaders and teams toward the right decisions, practices and processes. They enable organizations to counter threats and sustain competitive advantage. And they guide the use of appropriate practices, tools and techniques aligned with the organization’s needs and challenges. These principles were developed by a group of experts, practitioners and researchers, supported by the Brightline Initiative team.
It’s easier to imagine how a system will work in the abstract. It’s much harder to make sure it will function in practice. Once a system is designed, delivery doesn’t follow automatically. Because Brilliant’s focus was on his role leading Google’s philanthropic arm, Google.org, he knew that the key to getting strategy design and delivery to align at InSTEDD was to bring in the right leadership. To shepherd InSTEDD, Brilliant tapped two key leaders, among others — Dr. Mark Smolinski, who had a long track record in public health, and Wendy Schultz-Henry, a senior executive who had led startups and worked on corporate turnarounds. Both quickly realized the importance of moving the InSTEDD team beyond the blue-sky thinking, to focus on getting things done.

“The challenge in starting any new organization is to take that passion everyone has around the table and turn it into something concrete,” says Smolinski. “We had a lot of very long all-day meetings, generally in somebody’s house, where we did a lot of white-boarding. I think we just had more ideas than what one new organization could pull off.”

He wanted to help the team focus on the most promising delivery options. It was a time when several startups and developers were creating off-the-shelf solutions for disease surveillance and pitching them to governments. So, the group wondered: could InSTEDD gather all that existing technology, bring it under one roof, and test it thoroughly so they could recommend solutions to local health officials? This sounded promising at first. But as they started to dig in, they realized that the existing tools weren’t open-source — deeply problematic, as local health official wouldn’t be able to customize them for their needs, quickly and cheaply. That led the group to a new question: could InSTEDD build open-source tools to fill those gaps? Smolinski realized the need to make sure InSTEDD had the program delivery capability it needed to implement its strategy — and this seemed like a smart approach.
Accept that you’re accountable for delivering the strategy you designed

In the early days of InSTEDD, Schultz-Henry admits she was intimidated by the mission. “The vision was big. Crazy big. It was kind of like asking, ‘How do you boil the ocean?’” she recalls. She saw some key logistical challenges: Would the organization be able to do what it needed to do with only a small team and limited funding? Would they be able to get Silicon Valley excited to partner with them, and give them access to top engineers, without profit motive? She kept her eye on these questions, as she helped the team think through how to deliver on this strategy. Her gut told her that testing it out, on a smaller scale, would be wise.

“When you’re initially funded and your runway is very short and you have a very big task on your plate, you have to get super creative and super clever,” she says. “One of the best things you can do is have some early wins.” She and Smolinski looked for a challenge small in scope, but that would serve as a good test of this strategy. They decided to take an existing technology — a device called a ‘b-con,’ essentially a satellite-powered walkie talkie to allow for basic case reporting in the case of an epidemic — and test it in rural Cambodia. Their team headed to the country, to work with health clinics on the test. “And it was very successful,” says Smolinski. “It worked incredibly well.” The early delivery approach seemed to work.
When it comes to pandemics, there are specific places — known as pandemic hot spots — where diseases are more likely to emerge. These hot spots are in Southeast Asia, South America and tropical parts of Africa, where there’s growing population density, regular interaction with animals and underdeveloped health care systems. With the original vision of a centralized control room to monitor outbreaks, the InSTEDD team had always assumed that Silicon Valley engineers were a key resource they could send to disease hot spots. But as they traveled to Cambodia for the b-con test, they realized that might not be the case. “It was actually the engineers from Silicon Valley who said, ‘There’s nothing these engineers in Cambodia can’t do that we can do,’” says Smolinski. The local engineers were bold in their thinking and clean with their code. “Our engineers said, ‘They have the bandwidth. They have the ability. What we should be doing is investing in them.’”

This was a complete reframe for InSTEDD — a shift from building a top-down structure that would send engineers and epidemiologists out to the field, to a bottom-up one that would support and nurture talent at the local level. “I was trained that all public health is local,” says Smolinski. “Countries don’t want people parachuting in to solve the problem. They not only can but want to respond to outbreaks themselves.”

Schultz-Henry says this pivot in strategy — understanding where to find and mobilize the right resources — accelerated InSTEDD’s progress. “Once we started to recognize that a team locally-led on the ground could be a path to us being able to at least chip away at this enormous task, it just kind of — the floodgates opened,” she says. “The fun then was finding: who were the people that could do this? Who were the people that could do the software development? Who were the people that could be talking with the community? Who are the people who could run the organization?”

InSTEDD opened its iLab Southeast Asia in 2008, with a ceremony where Buddhist monks blessed the office. As it turned out, many people wanted to work there and InSTEDD was able to hire a talented staff quickly. One of their first employees was Channé Suy Lan — she had worked in software development for telecom companies and was brought in to create mobile apps. Over the years, she’s risen through the ranks to become the iLab’s director and she continually finds new talent for the lab by holding hack-a-thons, building mentorship programs and leading iCamps. More than 5,000 individuals have participated in these events, something Schultz-Henry sees as crucial for the iLab’s sustainability. “She loves this idea of creating an incubator environment and inviting others in — to give them new skills and share what we know, but also to let them innovate based on what they’re seeing.”
“Parachuting in” is common among public health organizations. The instinct to help people in other countries is a good one, but when foreign employees arrive in a new country, they often lack a real understanding of how local health systems work or how local people think about illness and disease. With the localized iLab model, InSTEDD was able to leapfrog ahead of that. Because the iLab Southeast Asia employs people from Cambodia, they come in understanding not just local languages and traditions, but with a better grasp of who’ll be using the tools they create and more nuanced knowledge of what may be potential challenge areas.

iLab staffers seamlessly interact with the people who will benefit from their tech innovations, from health care workers at local clinics to officials in government agencies to farmers who might see signs of outbreaks in their animals. “For us it’s about understanding what people need,” says Suy Lan. “When we develop technology solutions, we’re looking at the end — whether that will make impact to people’s lives.” They always begin with interviewing and surveys, before jumping into creating a tech tool.

As a result of these insights, the iLab has been able to create counterintuitive, successful tech tools. And because they’re developed in an open-source environment, they go into InSTEDD’s catalogue of tools that can be adapted in other countries too. One of InSTEDD’s most impactful tools to date, Verboice, allows for health data collection by voice in places where literacy may be a barrier to reporting. This tool was created when InSTEDD worked with Cambodia’s Center for Disease Control to build a National Disease Outbreak Hotline, based on the insight that it’s not just health workers who might see warning signs of outbreaks. Now, anyone in Cambodia can report suspicious symptoms by dialing “115” from any phone. The line receives hundreds of calls a day, including one from a farmer who reported that two of his chickens had died with a strange blood pattern on their heads the day before his daughter got sick. The government credits this call with stopping an outbreak of avian flu.
There’s no question that stopping disease before it spreads is a bold vision. Even so, the delivery strategy that InSTEDD has adopted looks very different from what Larry Brilliant first imagined. And yet, he was onboard for the shift as it enabled better focus on his vision and felt so in line with his mantra of ‘early detection, early response.’ “It’s an improvement over any idea that I might have had,” admits Brilliant. “If you want to have the earliest discovery of a pathogenic virus it has to be where that first case takes place — and the first case could begin in a rainforest in Brazil or it could begin in a pancake house in Laos where pigs are kept in the basement. If you’re going to be faster, you’ve got to be local.”

In many ways, it’s the simplicity of InSTEDD’s mission — use technology to spot pandemics before they start — that has allowed it to grow in such unexpected directions. Looking back, Brilliant says the best thing he did was articulate that clear goal, then step out of the way to let the people he’d hired take it from there. “I think alignment is the key,” he says. “If you don’t have values that are aligned, your team is going to splinter. You’re going to run afoul of 100 different things.” By keeping the focus clearly on an end goal of stopping pandemics, InSTEDD has figured a different — and better — way to win the game with local stakeholders calling the plays.
Today, InSTEDD operates the iLab Southeast Asia, which works with the Cambodian government and 50+ partners across the Mekong Basin. In 2011, they opened a smaller iLab Latin America in Buenos Aires, Argentina — a partnership with the consulting firm, Manas. InSTEDD also uses its core staff to work on projects in other countries, from South Africa and Ethiopia to Haiti and the United States.

Coordinating a team that works in so many different locations is a challenge. Even harder: maintaining a feeling of transparency and openness, with information flowing to everyone who needs it. Technology has helped InSTEDD’s team communicate — they use team chats and frequent video conferencing to keep everyone informed, regardless of their location.

Then there’s the issue of keeping everyone engaged. For InSTEDD, this is guided by the motto: “If you don’t go, you won’t know.” Everyone in the organization — whether they’re a coder, administrator or communications officer — is sent out to get experience in the field, and to work with InSTEDD’s local teams first-hand. This keeps everyone operating as a single unit and trains their eyes on the greater mission. By having the international and local teams work together, InSTEDD’s leadership avoids the problem of the ‘frozen middle,’ showing everyone how their role contributes to the larger strategy. “The international team is infrastructure and the team on the ground is the forward face,” explains Schultz-Henry.
While they might not have been able to articulate it, what Schultz-Henry (now InSTEDD’s CEO) and Smolinski (now the President of Ending Pandemics, a frequent collaborator) did was give InSTEDD a bias toward making decisions. This remains core. “We had to learn how to make tough choices early. We had to learn how to say ‘no,’” says Schultz-Henry. “Saying ‘no’ has probably been the hardest, riskiest thing we’ve done. But if we can’t do that, then we lose control of our ability to play the long game and that’s not something we can compromise.”

Making decisions and owning them is built into the way InSTEDD’s international team operates. When a question or idea arises, they believe in doing smart assessment and making the call based on the information discovered. Employees at the iLabs are also encouraged to test their hunches. Suy Lan explains that the iLab specializes in rapid prototyping — they come up with ideas and try them quickly, to see what works. This often means saying goodbye to ideas that sounded promising in theory but aren’t effective in practice. But it also means the potential for turning something as simple as a few sheets of paper into a powerful tool for combating disease.

All at InSTEDD agree that one of their smartest, simplest innovations was the “Reporting Wheel.” In 2009, the iLab Southeast Asia toured rural health centers in Cambodia and Thailand, with the goal of testing ideas to help health workers better report disease data. The team quickly noticed that these health workers weren’t all comfortable sending SMS messages — something they’d expected — and that many spoke languages with characters not typically appearing on phones. They had an idea: what if they built a tool that changed reporting from stringing together words to stringing together short numerical codes? They designed the wheel, which health workers can print in their language, or make by cutting out a pattern. A health worker turns one circle to find the disease they’re reporting, and the other to report the number of cases they’ve seen. When both are selected, they’re given a 6-digit code to text in. This has allowed disease data in Cambodia to be centralized and analyzed in real-time — rather than existing in chalkboard tallies or reporting books at individual health centers. Potential problems can be identified much earlier, and Cambodia’s Ministry of Health can act.
As they now define it, InSTEDD’s goal — beyond stopping pandemics — is to work toward a world where communities everywhere can design technology to improve their health.

The iLab model is highly replicable; centers could be opened almost anywhere. The decision to open the iLab Latin America was an organic one, based on having a partner to help shoulder resources — and it’s a smaller operation than the one in Phnom Penh. But now that the iLab Southeast Asia has been operating successfully for 10 years, InSTEDD is ready to explore the option of opening an iLab in a new region. In 2018, InSTEDD joined the Uganda Ministry of Health and Smolinski’s team at Ending Pandemics to hold EpiHack Uganda, a five-day event that brought together local public health officials and tech developers to prototype solutions for disease surveillance. Together, attendees tried new ideas for mapping who’s been exposed to a disease and tracking specimen samples as they move from clinics to labs. InSTEDD has seen the local talent here. Now, they’re assessing whether an iLab would be a true value add to the region.

Increasingly, InSTEDD is also being contacted about projects in other parts of the world. With each request, InSTEDD’s leadership weighs two questions:

1. is a tech tool the right approach for addressing the problem?
2. will finding a solution lead to an open-source tech tool that could have an impact in other countries too?

InSTEDD recognizes the importance of evaluating its capacity to deliver change, and only pursues projects where the answer to both questions is yes. “We’re very careful about not accepting projects that are ad hoc or one-offs,” says Schultz-Henry. For InSTEDD to take it on, the potential must be big. Last year, for example, the United States CDC reached out to InSTEDD about creating tech tools to combat the opioid epidemic. InSTEDD said yes, knowing that the work could benefit other countries where addiction is on the rise. They are currently in the assessment phase of the project.

Check ongoing initiatives before committing to new ones

PRINCIPLE 8
PRINCIPLE 9

Develop robust plans but allow for missteps — fail fast to learn fast

Looking back at the past 12 years, Schultz-Henry thinks a key thing has helped InSTEDD thrive is the fact that team members have the room to “fail smartly.” The organization has cultivated a culture where the learning that comes with mistakes is valued as much as having the right approach all along. This idea permeates all levels of the organization and has been there from the start. InSTEDD’s leadership team made a big pivot when they realized their original model wasn’t going to work — and because of that, InSTEDD established its value of being a learning organization. And with the rapid-prototyping done at the iLabs and in workshops, InSTEDD’s technologists are encouraged to try out a crazy idea, then see how it works. If it isn’t effective, there’s no fault — it’s just a part of the process. They simply roll what they learned into the organization’s collective memory.

In the tech world, failure is accepted — even celebrated. But that ethos rarely trickles down to the nonprofit sector. “[Nonprofits] aren’t allowed to fail. People don’t fund failures,” says Schultz-Henry. “So, you really have to think like a business. You have to be willing to do investment even when there’s risk.” Schultz-Henry recognizes that taking chances is required to fight contagious diseases that are constantly evolving. “We need to cultivate entities that have that amazing body of knowledge and are able to flex with whatever diseases are doing,” she says. “If we hadn’t been flexible and adaptable, and willing to buck the norms of what a nonprofit could do ... our future would look very different.”
“You can’t boil the ocean all at once — there isn’t a pan big enough. But if you go where there’s already some bubbles, you can have an impact.”

Wendy Schultz-Henry
President & Chief Executive Officer, InSTEDD
Just as in business, a large percentage of nonprofits cease operating within five years. So, it’s notable that, 12 years on, InSTEDD has already demonstrated impact across multiple countries and is still growing. “We spent a couple of years going back and forth, asking: How are we going to boil the ocean?” says Schultz-Henry. “And it really comes down to: you can’t boil the ocean all at once — there isn’t a pan big enough. But if you go where there’s already some bubbles, you can have an impact.”

Brilliant gives both Smolinski and Schultz-Henry a lot of credit for building InSTEDD into what it is today. “They took a 501(c)(3) and they built it into an engineering company,” he says. And he applauds Suy Lan for her leadership in creating tech tools and training the next generation. “She’s the heart and soul of the operation.”

When the InSTEDD team successfully deploys a tech solution, the results are big — communities are better protected from disease. For this reason, the organization has developed a culture of celebrating wins and applauding all who contributed. This is usually done on group video calls, where leadership recognizes both team and individual achievements. Key players are given extra days of paid time-off as a reward. These efforts boost morale, by stepping back and reminding team members of what their work is all about.

And for the organization’s most exemplary work, they go even bigger, aiming to show the public the results. When Cambodia’s Ministry of Health, for example, revealed that the 115 hotline had helped contain an avian flu outbreak, InSTEDD commissioned this video to share the achievement and illustrate how even the simplest of tech tools can keep us all safer.

Celebrate success and recognize those who have done good work
“No matter how great your ideas or how ambitious your goal, in the end you have to deliver,” says Smolinski. To him, that’s what makes InSTEDD a great organization — they’re constantly delivering results. “The fact that they have developed technologies that are useful not only in the countries where they were created, but that can be easily adapted by other countries too — that makes me really excited to see.”

In the end, while the vision was his, Brilliant says he can’t take credit for the success. “InSTEDD really was its own event. Long before I noticed, it had developed a culture and a community and its own sustainable future,” he says. “To me, it’s like watching seeds I planted grow and create a beautiful garden with all these different social experiments. And together, in the aggregate, they’re making the world safer.”

Because when strategy design and delivery come together successfully, even impossible dreams like preventing pandemics can come true.

Watch the Brilliant Case Study Video >>
The Brightline™ Initiative is a coalition led by the Project Management Institute together with leading global organizations dedicated to helping executives bridge the expensive and unproductive gap between strategy design and delivery.

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