



## Fact Sheet

**Background:** InSTEDD (Innovative Support to Emergencies, Diseases, and Disasters) was created from Dr. Larry Brilliant's 2006 TED Prize granting him "*One Wish to Change the World*" (see [www.TED.com](http://www.TED.com)). Dr. Brilliant's wish was for "better detection, better response" to disease outbreaks and natural disasters. The permanent team chosen to address that wish was established in October 2007.

After months of initial research with grassroots communities in Asia, Africa, and the Americas, then with national governments, multi-national networks and international aid agencies, InSTEDD's charter broadened to *harnessing technology for effective collaboration in crisis*. With funding from Google.org, InSTEDD undertook the challenging task of linking together people and streams of information to help save lives, reduce suffering, and avert damage within vulnerable regions across the globe.

InSTEDD is doing that by helping everyone involved share the information they each need in a crisis, using exactly the same tools they have available every day - cell phones and laptops - but using them with new, unique, and free software that gives them robust collaboration capabilities that were designed while sitting next to real users in very challenging places.

**InSTEDD's Work:** Emergency Responders have too often found that they can't collaborate swiftly in crisis, and we've now heard that echoed in every corner of the globe. Urgently forming teams across organizations as a crisis unfolds, and then sharing information, person-to-person and system-to-system, and then working to make better decisions together, is a critical capability gap. InSTEDD has now recognized that the most important single contribution we can make to humanitarian support, both for diseases and disasters, is to *close that collaboration gap*; get people working together across boundaries rapidly and effectively in crisis. Today InSTEDD is providing highly sophisticated, yet simple technical tools (with some targeted educational assistance) that build community resilience through collaboration. Now community health workers, civic agencies, humanitarian responders, public health professionals, disaster managers and others can share information quickly, evaluate threats as a group, and make better decisions together.

**InSTEDD's Unique Tools:** InSTEDD's tools are precisely designed to strengthen social and professional networks so that resources can be mobilized quickly when problems arise. With extensive mobile phone networks available even in developing countries, a ubiquitous core infrastructure now exists on which InSTEDD has been able to create uniquely accessible collaboration tools. These tools enable responders to predict, spot, and mitigate diseases and disasters, just as Dr. Brilliant intended.

In designing the InSTEDD Collaboration Platform, we created three core services that:

1. Allow simple, reliable, self-organizing group communications, linking headquarters, First Responders and community members on a map;
2. Fuse disparate data sources, software applications, and hardware devices into a seamless mesh of free-flowing information; and
3. Help analysts work together to detect the faint early signals of an impending crisis, characterize the event as it unfolds, and make the right decisions sooner.

These results are delivered with three tools:

1. **GeoChat:** GeoChat is our *person-to-person* solution for being prepared for - and communicating in - a crisis. It's self-organized small-group messaging over SMS, with the conversations within the group also appearing on a web-based group map and every member of the group visible in their location. The service lets mobile phone users broadcast alerts, report on their situation, and coordinate around events as they unfold, linking field responders, headquarters, and the local community in live, interactive geo-referenced conversation.

On the web GeoChat is designed to integrate natively with multiple mapping applications (e.g., Google Earth, Microsoft Virtual Earth, ESRI, GeoFusion, GeoRSS, and the rest). It also allows information to flow over multiple messaging channels, including dedicated SMS servers, a cell phone plugged into a laptop, a satellite phone, and even Twitter. Users have referred to it as “**Email for the Bottom Billion**”

1. **Mesh4x** allows *system-to-system* information sharing for collective awareness. Using *Mesh4x*, every user knows what every other user knows. When a disaster relief worker notes in a spreadsheet that beds are available in a local shelter, that piece of information is automatically synchronized to all of the different websites, PDAs, databases and maps of every organization cooperating in the response.

The problem was straightforward. We recognized that emergency response organizations use software applications appropriate to their mission. Rather than trying to convince everyone involved in a crisis to use a single piece of software for data collection and situational awareness, *Mesh4x* is designed to let them share data no matter where their data resides. *Mesh4x* allows information to flow between established **applications** (like Excel, Access, GoogleEarth, MySQL, Oracle and many others), and between **devices** (laptops, Smartphones, PDAs, and servers) reliably, selectively, and securely. In fact, if needed, it can synchronize data over nothing but a stream of SMS messages, merely by plugging an ordinary cellphone into a laptop.

2. **Evolve:** Evolve is a collaborative sense-making tool for event detection, analysis and response. Evolve allows groups of experts to interact around *streams of information*. It's a way to help teams of experts (e.g. in public health, disaster response, climate modeling, or human rights) monitor multiple data streams, identify potentially significant events, work together rapidly to characterize what is occurring, and make decisions collaboratively about an appropriate response. Evolve combines the power of (1) *virtual teams of human experts* and (2) *advanced analytic, machine-learning, and visualization services*, allowing users, especially in disease surveillance, to respond to events faster and with richer context.

**Building Brain Trusts:** InSTEDD has developed and implemented a model for responsibly introducing new technology like this into developing countries. It's called an **Innovation Laboratory (iLab)** and it's a location where local staff and students are trained to modify our tools and methods to meet their local needs. It's also a place where those concerned with problem solving and technology can convene and collaborate within a neutral space.

Within the Innovation Lab we train students in core infrastructure basics (like water, sanitation, and public health) but our real focus is on training in computer management, software languages and programming techniques. Within a brief period we've found that students can independently

alter the InSTEDD software tools to meet the needs they find within their own environment. That's working well in Phnom Penh, Cambodia where the iLab students have, in only a few months, taken on self-contained tasks that begin to address the critical problems surrounding them.

**InSTEDD's Impact:** InSTEDD began its work in Southeast Asia because the Mekong Delta is a disease hotspot (SARS, avian flu, Dengue, malaria, tuberculosis, and many others). We knew that by learning, in that crucible, what works, what doesn't and why, we'd develop models that would work anywhere. We've already had significant success in Cambodia and we now have users in Mongolia, Thailand, Uganda, Switzerland, Pakistan, Italy, Mexico, Ghana, and the US.

**InSTEDD's Achievements:** InSTEDD's tools and methods have been met with significant acclaim<sup>(1)</sup>.

Among our highlights:

- **Mekong Basin Disease Surveillance (MBDS) Network** selected InSTEDD's *GeoChat* for cross-border disease outbreak notification saying "the first new technology we've adopted since the fax."
- **US Center's for Disease Control** selected InSTEDD's *Mesh4x* for their epidemiology software saying "CDC recommends Mesh4x for anyone who needs to synchronize data using Epi Info™"
- **The Ministry of Health for the Government of Cambodia** selected InSTEDD's *GeoChat* for distribution within the health offices of every province in Cambodia.
- **The Government of Mexico** has selected InSTEDD's *Evolve* for their pilot of a national biosurveillance system using population-based SMS reporting.
- **Thomson-Reuters Foundation (Reuters News Service and AlertNet)** has selected a complete system of InSTEDD's *GeoChat*, *Mesh4x*, and *Evolve* as the basis for their Emergency Information System, using information as another form of aid in disasters.
- **UNICEF and Grameen in Bangladesh** selected InSTEDD's *GeoChat* as the basis for a nationwide educational pilot using mobile technologies.
- **US Centers for Disease Control** about our *Mesh4x* software: "as disruptive as the iPhone"

Additionally, UN World Food Programme, Salesforce.com, MITRE Corporation, UN Development Programme, McKinsey & Co, Pangaia AIDS Foundation, and the World Health Organization are evaluating InSTEDD technology as a platform for internal solutions.

*InSTEDD has a broad range of capabilities around the better flow of information when speed, simplicity, and reliability are critical. Please don't hesitate to contact us if we can be of help.*

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<sup>(1)</sup> Citations available on our website and on request