



# The Computerworld Honors Program

Honoring those who use Information Technology to benefit society

## Final Copy of Case Study

**YEAR:**  
*2012*

**STATUS:**  
*Laureate*

**Organization:**  
VBrick Systems, Inc.

**Organization URL:**  
[www.vbrick.com](http://www.vbrick.com)

**Project Name:**  
3C Wildfire Control

**What social/humanitarian issue was the project designed to address? What specific metrics did you use to measure the project's success?**

The ultimate goal and primary directive of any government agency is to aggressively protect life, property, and the environment. Protecting human life is obviously the ultimate in humanitarian efforts. When it comes to protecting against mass destruction, it takes many different agencies working closely together. With the loss of human lives and the massive destruction cause by wildfires in 2003 and 2007, it was recognized that significant improvements needed to be made in resource management during wildfire emergencies. The San Diego area governments, along with the Department of Homeland Security (DHS), created a task force to improve the coordination of local, regional and national resources to protect the area through innovation and by leveraging modern technologies. In 2011, the Regional Command Control Communications (3Cs) upgraded their systems to incorporate live video distribution to all participating parties in wildfire control, including video from helicopters, ground stations, as well as live feeds via the Internet to other agencies and non-government entities assisting in resource coordination. The feeds keep command and control centers and their first responder teams up to date on events unfolding around the region, and have enabled their well-coordinated responses to bring the worst of the fires under control within days. Detailed coordination metrics and goals have been established and documented:

<http://www.regional3cs.org/PublicFiles/Files/Docs/3Cs%20Regional%20Video%20Downlink%20Study%20Report.pdf> .

**Please describe the technologies used and how those technologies were deployed in an innovative way. Also, please include any technical or other challenges that were overcome for the successful implementation of the project.**

Live video feeds from remote regions north of the city are immediately available to decision-makers working for San Diego's Sheriff's department, law enforcement, emergency services, and fire and rescue services, as well as command staff with Homeland Security and Cal-Fire using VBrick's video ecosystem, including encoders, content management, and internal and external distribution systems. VBrick's technology was married with existing mechanical resources (helicopters, first responder units, ground stations, etc.), and further empowered through a combination of complex wireless and terrestrial networking technologies, enabling the real-time distribution of live video from anywhere in the area from any mobile or fixed resource.

**Please list the specific humanitarian benefits the project has yielded so far.**

In October 2007, during the initial test of the system in a pilot phase, the area saw significant increases in coordination of resources as multiple wildfires plagued the area. Fanned by strong Santa Ana winds, the fires quickly reached such proportions they could be seen from space. More significantly, they forced approximately 1 million people to evacuate their homes, the largest evacuation in California's history. Alone, individually, none of the fires matched the size of the Cedar Fire of 2003. Collectively, however, they represented a much larger threat and, because they were so numerous and scattered, quick and coordinated action among San Diego's public safety agencies was more critical than ever. Live video feeds from remote regions north of the city were immediately available to decision-makers working for San Diego's Sheriff's department, law enforcement, emergency services, and fire and rescue services, as well as command staff with Homeland Security and Cal-Fire. The feeds kept command-and-control centers and their first responder teams up to date on events unfolding around the region, and enabled their well-coordinated responses to bring the worst of the fires under control within days.

**Please provide the best example of how the project has benefited a specific individual, enterprise or organization. Feel free to include personal quotes from individuals who have directly benefited from the work.**

"Partnering with VBrick was the most effective way to harness the incredible power of IP video to rapidly establish situational awareness and execute the coordinated and effective response that is necessary to protect property and citizens of the county," said Diaz. The network proved such a success that the 3Cs initiative will continue to expand its video capabilities each year, improving security of its feeds and the efficiency with which video travels across the network. VBrick encoders have facilitated the tuning process, said Diaz, by enabling operators to optimize live feeds for image clarity. "We've also been working to maximize network efficiency," said Diaz. "VBrick has facilitated this process by helping us to find ways to minimize video's impact on network bandwidth without loss of image quality."