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## San Diego company simulates battle, bullets, blood

Strategic Operations sets up realistic training for combat, drug houses and ship seizures

BY EMILY VIZZO SPECIAL TO THE U-T  
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A Hollywood-style explosion rocks the center of a mock Afghan village on a San Diego studio lot, sending San Diego State University ROTC recruits scurrying for cover as street “gunfire” erupts. Deep booms and crackles punctuate the smoky, debris-filled air, and an Afghan amputee role player is left moaning in the gravel, spurting pretend blood.



PHOTO BY NELVIN C. CEPEDA - U-T PHOTO

Grant Shin (left) and Jason Palomar of SDSU ROTC provide security as their squad runs through a patrol exercise at Strategic Operations in Kearny Mesa. It involved M-16 rifles with blanks, pyrotechnics and role players.

Strategic Operations, located within Stu Segall Productions TV and movie studio lot on Ruffin Road, offers what it calls “hyper-realistic” training setups to the military and law enforcement

with the idea that exposing individuals to realistic scenarios builds skills used in actual combat or drug busts.

“If we shoot at you, you’re not going to get hurt — but you’re going to feel like you’re going to die,” said Stu Segall, company president. “It’s the exact same physiological response. When you get to the real thing, you know how to react. We call it ‘stress inoculation.’”

Strategic Operations’ clients have included the U.S. Army, FBI, Chula Vista Police Department and San Diego Harbor

Police. It's helped train more than 450,000 military personnel.

The company doesn't conduct the training; instead, it creates training environments based on needs as determined by unit commanders. Strategic Operations currently employs fewer than 100 full-time workers, but crews swell up to 650 people on location. Sort of a warfare Santa's village, its 20-acre studio lot has 10 sound stages and multiple workshops where workers construct, manufacture and detail pretend weapons, West African huts, butcher-shop goat carcasses (smearred with honey to attract real flies) and mock shish kebabs.

Temporary construction units can be erected within 15 minutes; basic building shapes are adorned with domes, spires and minarets to depict Iraq, Afghanistan, Southeast Asia or other regions. Mud, bamboo, thatch and street graffiti make things gritty.

"It's not like the movie business; it's not like the military," said Kit Lavell, Strategic owner and executive vice president. "It's a blend of both."

The private company, which does not disclose revenue, said it has successfully created a niche in the market against larger competitors. "We stress customer service in a way that has set us apart," Lavell said.

Despite competition from the likes of San Diego-based Cubic Corp. and others, Strategic has had an average annual growth rate of more than 60 percent since it was founded in 2002, he said.

"The large defense contractors (Lockheed Martin, General Dynamics, Northrop Grumman etc.) have been adapting to the transformation from the Cold War to the irregular war threats we now face by emulating these same techniques to some degree or another," Lavell said. "Small companies have been offering role players or nonpyrotechnic battlefield effects, but no one offers the full range of hyper-realism that Strategic Operations provides."

While simulated training itself isn't new, previous military training sometimes used the same setup each time, limiting surprise and realism.

"The idea is to make something as close to the setting that a rifleman in combat would go into so that he could transition from 'crickets to chaos' and make the correct ethical, moral and tactical decisions," said Tom Buscemi, director of the 1st Marine Expeditionary Force Battle Simulation Center at Camp Pendleton.

In 2007, Strategic Operations designed and built an infantry simulator for the base.

"It's noisy, it's smelly, it's visual," Buscemi said. "It begins



PHOTO BY NELVIN C. CEPEDA - U-T PHOTO

Army ROTC students John Donovan (left) and Jason Palomar from SDSU encounter role-playing actors during training at Strategic Operations.

### Innovations

**Truck ladders:** During training, Marines leaping down from a mock 7-ton truck wearing 85-pound gear packs would sometimes injure their ankles – just as in the real world. Strategic Operations designed and manufactured a fire pole-like structure that eased them down from the truck. In 2006, the Marine Corps contracted with Strategic Operations to produce 330 "ladders" for Iraq-bound trucks.

**Habitat units:** The company's "relocatable habitat unit" designs lightweight fiberglass buildings, such as mock village huts, to be constructed in 15 minutes. The design avoids requiring complicated government approvals because they're not permanent structures. "It's basically like a Lego set," said Kit Lavell, the company's executive vice president.

- The fiberglass units are easily transported, so Strategic Operations can create realistic training

to prepare you for the absolute chaos of a gunbattle. We've had people go into shock. We've had people completely stunned."

Simulated trainings (not through Strategic Operations) were relevant to the U.S. Navy SEAL mission that killed Osama bin Laden, Segall said.

"As I understand from public record, they replicated an actual compound and assaulted the compound over and over again," he said. "Realistic training is very, very important in the accomplishment of a mission."

An on-site casting agency attracts San Diego-based actors for Strategic. Many have military backgrounds or speak foreign languages. Costumes, props and weapons help them represent insurgents, civilians, religious leaders and government officials.

Heather Morales, an actor and amputee, often portrays a badly injured individual requiring emergency medical care.

"I've seen people vomit, shake uncontrollably, cry, run away, or go into shock," she said.

Four-star generals have shaken her hand to express gratitude, Morales said.

One time, a former trainee who had been deployed recognized her in a crowd. "He said, 'What you did pretty much saved my life,'" she said.

Simulated combat wounds include gunshots, shrapnel wounds, eviscerations, burns, eye injuries, embedded foreign objects and amputations. Hidden tubes help simulate gushing blood or air bubbles in chest wounds.

Actors might wear a device that fits over the body for surgical simulations and airway management practice. Trainees open up the chest, practice intubation and palpitate a beating heart.

Strategic Operations got its start after the 9/11 attacks, when business in the action entertainment industry slowed. Segall's production company had taken "a bit of a nose-dive," Lavell said, when (unknown to either party) the San Diego Drug Enforcement Administration moved into an adjacent building.

After hearing explosions and gunfire on the nearby studio lot, law enforcement officers made a surprise visit to investigate.

"They just came up the hill with guns drawn," Lavell said. "It was a bit of a standoff."

Impressed with the setup, the agency asked whether Segall could create training scenarios. In April, for example, the lot's 12,000-square-foot "shoot house" was designed as the site of a cocaine drug bust. It has stood in for a bomb lab, meth lab and torture chamber. Locked doors are fitted with "sacrificial jambs" so that trainees can practice kicking down doors.

Walls can be moved and doors hinged in different directions. "Stu has no rules," Lavell said. "We do it to screw them up. You can't game it."

A ship simulator contains decks, captain's quarters and cargo holds, where Coast Guard trainees can practice drug seizures. Special effects technicians flood the engine room with water as role-playing bad guys attempt to scuttle the ship and destroy illegal cargo.

grounds in remote areas such as the Marine Corps Mountain Tactical Warfare Center in Pickel Meadow in Mono County.

- The structures, which sell for \$11,000 to \$12,000 per hut, have attracted attention from nongovernmental agencies, including the Red Cross, for possible use in crisis zones such as post-earthquake Haiti, Lavell said.

A Huey UH-1H helicopter mounted on a tower next to the simulator slides up and down, simulating altitude changes so trainees can practice boarding vessels from the air — complete with saltwater spray and simulated whipping chopper blades.

Another unit depicts a dark, mazelike Afghan cave. Other scenarios that could be covered include vehicle checkpoints, suicide bombers and sniper training.

Film crews capture the action so that trainers and trainees can deconstruct events later. Instructors monitor for missteps from hidden catwalks or an observation tower. When trainees make mistakes, instructors signal to pyrotechnicians for an explosion, gunfire or escalated action that could be the real-life result.

Before an recent rehearsal on the studio lot, Afghan role players waited and sipped from plastic water bottles, surrounded by oil barrels, graffiti and vendor displays of rustic candlesticks and electric fans. Some checked cell phones in the shade of a village building before the simulation for the Department of Defense research arm.

Just yards away, San Diego SWAT team members in training lined up outside the shoot house, rapping on a window and demanding entry.

As the village demonstration concluded, the “villagers” popped their sunglasses back on.

“We’re doing make believe,” Segall said. “There’s a lot of troops out there, and they all need to have some sort of tactical training. It makes it safer for them. That’s what this is ultimately about.”

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