

Futures

The Clear Space Foundation

Making a sale. By Jeff Hecht



ILLUSTRATION BY JACEY

When Andy arrived for the weekly sales meeting, the company's latest rocket launch was playing on his boss's wall screen. The engines roaring to life and the rocket rising slowly into the sky made a great sales promotion. "Linking the World Through the Sky" followed, the video showing hundreds of company-launched communications satellites arcing slowly across the sky in their orbits, glittering so brightly when sunlight hit them that he couldn't see the fixed stars.

"Great launch, Marina," he said when she looked up. "I sold all the slots we had left open and the customer got all their sats on board. Funny little outfit, but they had their truck loaded and ready to go."

"That's what I wanted to talk to you about," Marina said. She didn't sound happy.

"Don't worry. The payment cleared. I sat in the comptroller's office and watched her enter the payment information into our system." Andy would never let another student robotics club get a cubesat off the ground

before their payment cleared. He loved selling, and space was a great business, but money mattered.

"We got the money," she said. "But they paid in anonymous cryptocurrency that didn't leave a name in our files. Did you check their credit score and reputation index?"

"Er, no ..." He had been too eager to push the sale through. "Doesn't a valid payment show they are legitimate?"

Marina sighed. "Did you get their name?"

"No ..." he said slowly. "I thought the comptroller put it into the system. It's some kind of environmental foundation. They needed to launch a dozen satellites for an experiment. It was urgent, so I charged them a premium to get onto the first available launch."

"Does the name 'Clear Space Foundation' ring a bell?"

"No," Andy shrugged. "They didn't have a name on the door. The comptroller told me they were redoing the logo."

Marina was shaking her head and rolling her eyes when an URGENT alert flashed on her desk

screen. Andy recognized the security director's drawl, tinged with an anxious tone. "Our agents can't crack the crypto, but it looks like Clear Space. They must know that we have them on the deep blacklist."

"You think they're in the Kessler Alliance?" she asked.

"I know they are," said security. "That's why we track them."

"Who?" Andy had never heard the name.

Marina ignored him and stared at the screen.

"Any sign of trouble on the sats?"

"We're working that."

Marina stared silently at the screen. Andy kept quiet, hoping the trouble would blow over.

"Did your guy sell them any insurance?" the security chief asked.

"I tried," Andy said.

"What did they say was the payload?"

"Scientific equipment," Andy replied.

"You didn't enter anything into the system."

"I must have got interrupted," Andy said, not wanting to admit he had forgotten.

Futures

“What’s on your operations log?” security asked.

Marina entered a command and read from the new screen after it opened. “Launch and dispersal were normal. We didn’t turn on path verification because they didn’t buy the insurance package. Sales had approved their security.”

“That shouldn’t have happened. We had the usual bugs on the sats, but nothing saboteurs can’t shake.”

“Saboteurs?” Andy blurted. Nobody had ever told him about saboteurs.

Marina’s voice was icy. “People who want to stop artificial satellites from desecrating their sacred sky and stars. Their plan is to crash satellites into each other, smashing them into shrapnel that fills the sky and destroys all the sats. It’s called the Kessler syndrome. All that stuff has been in our new employee training programme since before you were hired, along with an explanation of our blacklist.”

Andy hadn’t paid much attention to company security; he thought he did his part by selling things. “Oh,” he said into the silence.

“Damn!” The security head’s deep voice returned. “All 12 bugs we put on their sats have not changed velocity since 20 minutes after dispersal. We ran the sensor data through our AI and it says each of their sats carried four Tic-Bots. They’re classified military gear that stick themselves to satellites and hijack them.”

In the silence, Andy asked: “What happens?”

“Tic-Bots turn the other side’s spacecraft into killer satellites. They disable its propulsion unit and activate their own hunter-killer system, which homes in on another satellite for an impact kill. At 10 kilometres a second, the crash yields a thousand lethal pieces of space junk. They make an avalanche of shrapnel.”

“Think a runaway nuclear chain reaction,” Marina added. “Worst case, it’s game over for everything in low-Earth orbit.”

After another long silence, a curse exploded

from the screen. “Collision detected. Two sats went down at once. Tracking computers connected their orbits and the Tic-Bot.” The security head paused. “Our guy says Clear Space went underground. The sky is going to be a big fireworks display. It’s all over.”

Marina stared at the screen, then turned. “Get out, Andy. We don’t need you any more.”

Leaving the building, Andy wondered if he could sell binoculars to people watching the collisions. Then he remembered the comptroller had said one day the sky would be beautiful, and wondered if he could sell more binoculars when the sky was clear again and people could see the stars.

Jeff Hecht makes his living by writing about real science and technology, and exercises his imagination by writing science fiction. His latest book is *Lasers, Death Rays, and the Long, Strange Quest for the Ultimate Weapon*.

THE STORY BEHIND THE STORY

Jeff Hecht reveals the inspiration behind *The Clear Space Foundation*.



The idea came to me while I was writing a feature for *Optics & Photonics News* on the impact of large satellite constellations on ground-based astronomy. I haven’t heard such dismay from astronomers since the flaw in Hubble’s main mirror was discovered in 1990. I hope *The Clear Space Foundation* is not prophetic.