Changing the game for border security

Ewen Levick | Sydney

Many discussions and articles in the Defence space today talk about the pace of technological change. New innovations are reaching into just about every corner of military operations.

Some things, of course, have been the same for years; the dependable Browning 9mm has been on the hips of Australian soldiers since 1935. Yet even that generational unifier is set to be replaced by 2022.

Many of the technologies revolutionising military operations are having similar effects in other areas, including border security. *ADM* recently spoke with Assistant Chief Patrick Stewart, Branch Chief of the Geospatial Information Systems (GIS) program for US Border Patrol, about how geospatial tech is changing the game.

In a nutshell, GIS is a system that brings together a wide variety of data – maps, location tracking, meteorology, seismology, passive detection, video feeds, even moon phases – into a single system used by agents and analysts across the US to gain full situational awareness.

"We have a range of IoT (Internet of Things)-type devices transmitting data – infrared, seismic, magnetic detections," Steward said. "We send agents out with a high-quality GPS with centimetre-level accuracy to map landmarks, drop locations, layout locations.

"We have remote video surveillance, movement sensors as well. Those alert us to high traffic areas and help us classify that traffic.

"We also collect location information for arrests and seizures. Then, as we're moving across an area of operations, we monitor the location of agents as they move."

> **"The GIS identifies patterns in human movements that allow US Border Patrol officers to predict routes of travel and increase operational efficiency"**

The GIS feeds information from a wide range of sources into a common platform for full situational awareness.   US CBP

Essentially, the GIS identifies patterns in human movements that allow US Border Patrol officers to predict routes of travel and increase operational efficiency. According to Stewart, this has revolutionised daily life for agents on the ground.

"Depending on the time of year, subjects may not cross particular areas of the grid," Stewart said. "Moon phases, seasons, weather, rainfall – those types of things factor into how we build our model."

"One of the challenges we have is having to work ungodly long hours, because you get emotionally invested in the activity. You get 12 hours into your ten-hour shift, but you want to stay because you're only twenty minutes away from resolving the situation.

"It's about learning which rabbit holes not to go down"

"Now we have this story we've built [through GIS], you can pass that on to an oncoming shift. Agents don't need to be conflicted between resolving an activity and making it home to important family events."

The system has also improved operational efficiency on a number of indicators.

"We've seen a decrease in the mean time to interdiction. We've seen an increase in the proper recording of results. We've been able to precisely tie activity to devices and demonstrate the value for money of our equipment, which allows us to consider how we allocate our resources."

This performance has seen a number of Australian organisations show an interest in adopting GIS technology.

"I've been surprised at how receptive [Australian organisations] are," Stewart said. "They're really excited about moving forward with a stronger capability.

"The difference is that there's still a lot of different capabilities out there that could be brought back together. You've taken lots of groups with their own way of doing things – how do you get them to work together?"

That, Stewart said, was the primary purpose of his visit to Australia, in which he spoke at the Australian Security Summit in July.

"It's about learning which rabbit holes not to go down," Stewart said.

"We've been down a lot of those already. Why make the mistakes we've already made in the past?"

A US Border Patrol agent scans the Mexican border for signs of activity.   US CBP