



# BORDER SECURITY

Implementation and Integration Overview

## Overview

In a complex security environment with adversaries challenging on every domain, Parsons provides disruptive and agile technology, system integration capabilities, and infrastructure solutions to address our customers' emerging mission needs. Parsons' products and solutions improve our customers' ability to predict

illicit activity, detect and track illegal border crossings, and identify and classify the incursions.

Parsons has extensive experience designing and building integrated networks incorporating remote sensing surveillance assets, unified C2 systems, and COP systems.

## Capabilities

### Sector Headquarter (HQ) Sites, Ops/ Training Centers, Ports of Entry (POE)

- Surveillance/communications towers
- Command and control (C2)/C5ISR operation centers
- Forward operating bases
- Border patrol stations
- Training centers
- Border patrol checkpoints

### Communications Network

- Data communications - point-to-point (PTP) and point-multipoint (PMP)
- Microwave backhaul relay links/sites
- Tactical communications repeater sites
- Land mobile radio (P25)
- DHS OneNet
- FirstNet

### Infrastructure/Construction

- Equipment shelters
- Towers, grounding, and lightning protection
- Power systems (commercial, generators, solar)
- Infrastructure, sensor, radio, and IT installations/modifications to sites
- Command and control center (C2CEN)
- Checkpoint, POE, station, Sector HQ
- Environmental

### Integrated Command & Control

- Common operating picture (COP) software
- C2 equipment – servers, workstations, and display wall

### Remote Sensing

- Long range electro-optical/infrared (EO/IR) cameras
- Transportable/mobile EO/IR cameras (aerostat, mobile trailer)
- Ground surveillance radars (GSR)
- Unattended ground sensors (UGS)
- Signals intelligence (SIGINT)
- Unmanned aircraft systems (UAS)
- 3D aerial imaging

### Equipment

- Infrastructure equipment procurement
- Border security equipment procurement

### Training

- Agent operations and maintenance tech courses developed and conducted

## Past Performance

### Defense Threat Reduction Agency (DTRA)

Parsons is the prime contractor on Cooperative Threat Reduction Integrating Contract (CTRIC) III. We lead all the systems engineering, design, equipment procurement, construction, equipment installation, integration, testing, training, and sustainment that assists cooperative nations to strengthen their ability through border security projects to prevent, deter, detect, and interdict illicit trafficking in weapons of mass destruction (WMD) related materials and technology. Countries include Armenia, Georgia, Lebanon, and Jordan with a constructed value of over \$100M.

### Customs and Border Protection (CBP)

As prime contractor, Parsons provided planning, engineering, and program management services for border-related facilities and infrastructure. We also provided business processes, design standards, facility condition assessments, environmental, and operations and maintenance (O&M) program development

### Federal Aviation Administration (FAA)

Parsons provides technical services for FAA's nationwide mission-critical tower infrastructure, including installation of complex equipment and remediation of aging infrastructure. We have also supported updates to existing CBP infrastructure on over 70 task orders along the Southwest border on the RVSS infrastructure, CBP training facilities, and R-RVSS platforms.

### General Services Administration Special Programs Division (GSA SPD)

Parsons supports CBP with analysis, development, and management of infrastructure and technology systems deployment at land ports of entry (LPOE) as well as construction management, strategic planning, and environmental analysis. Parsons provided services on two separate SATOC contracts, including design review, feasibility studies, and project/ program management.

### National Geospatial-Intelligence Agency (NGA)

NGA has funded an effort to provide CBP Air & Marine Operations Center (AMOC) full motion video (FMV) processing, exploitation, and dissemination (PED) efforts with Parsons' PeARL Flash 2D/3D tool that provides on-demand/fully-automated processing of geospatial data (FMV) in support of near-real time CBP surveillance requirements. PeARL Flash also:

- Provides realistic FMV 3D point Cloud reconstruction within 10-15 minutes of capture
- Enables fusion of multi-sensor data into 3D processing (handheld photos, satellite, etc.)
- Replaces and streamlines current analog, time-intensive, 3D production and associated PED processes
- Enables the dissemination of 3D content to the edge via an Android team awareness kit (ATAK) and other handheld capabilities

### Transportation Security Administration (TSA)

Parsons provided engineering, installation, and integration services to the TSA, including test, evaluation, and operational integration of security equipment at 39 airport sites; checkpoint deployment in the TSA Central Region; and support of development and deployment of updated passenger screening program (PSP) equipment in the Central, Eastern, and Western regions.

### USA Fort Worth District

Parsons has supported CBP on various border activities through multiple contracts. Services included construction management, program management, independent validation & verification (IV&V) and building operations, maintenance, and repair (BOMR).

## Parsons' Understanding of the Operational Concept for Border Security

Operational View (OV-1), Figure 1, provides an overall view of the integration of border security technologies in support of border security operations to predict, deter, detect, track, identify, and classify border incursions. This interrelationship of technology and operations provides officers and border agents highly effective tools to implement border protection.

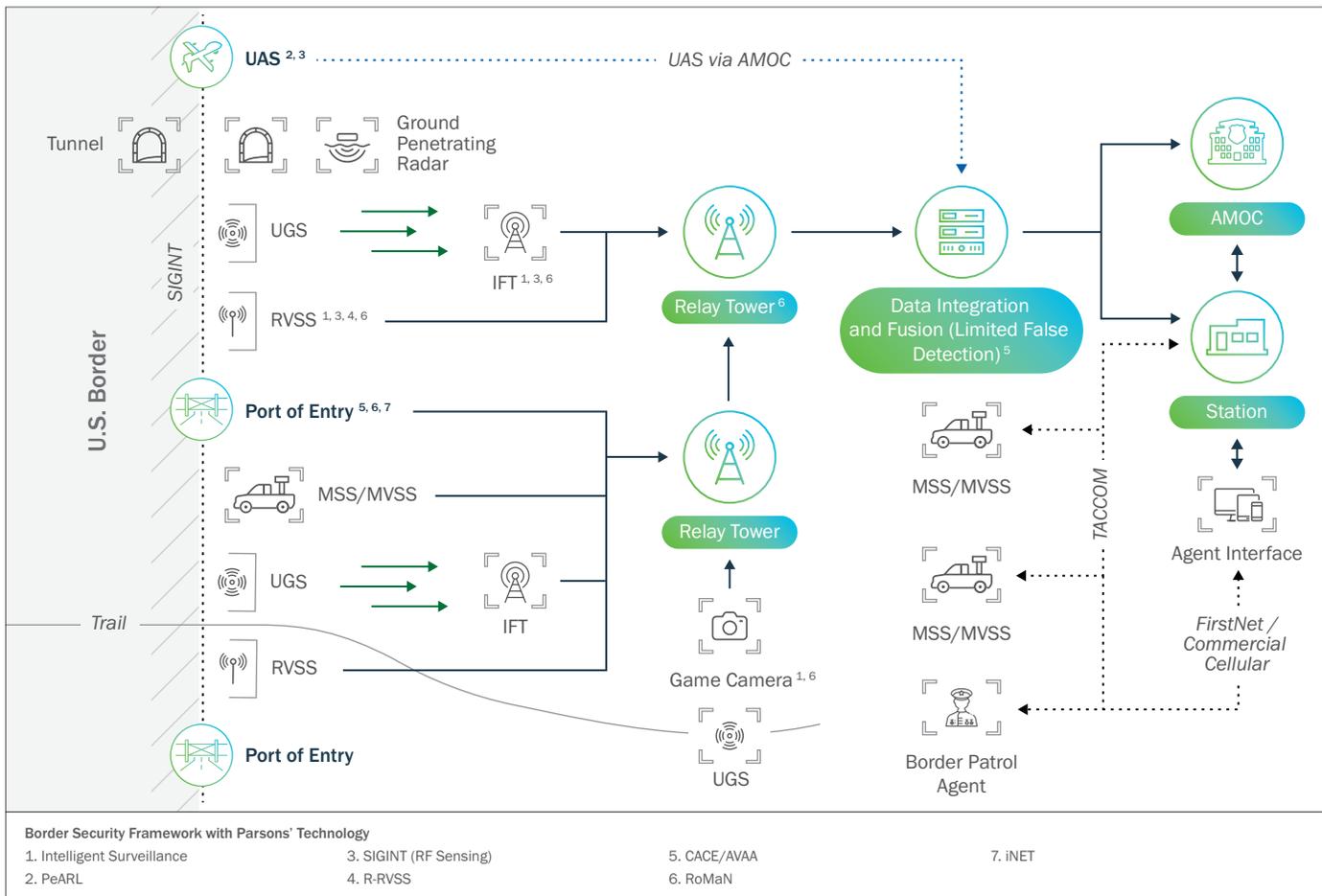


Figure 1: Operational View (OV-1) - Border Security Technology Integration

## Parsons' Technologies and Tools Drive Change

Securing the border involves operational elements of prediction, deterrence, detection, identification, classification, tracking, and executing the proper law enforcement resolution. While the outstanding men and women who work 24/7 to protect our Nation's borders are the most critical component, technology is a force multiplier that enhances the probability of achieving the mission goals required to maintain a secure border. Current technology, however, fails to meet the operational need due a lack

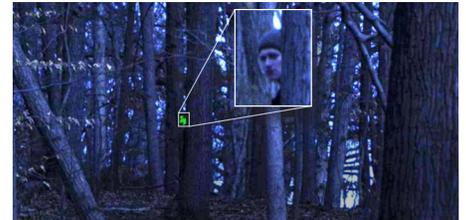
of system integration as well as the knowledge of field operations required to identify the proper mix of technical solutions.

Parsons has the experience to integrate a unique mix of technologies to fully capture all operational elements of prediction, deterrence, detection, identification, classification, and tracking. Additionally, Parsons' technology solutions can eliminate current operational gaps.

### Intelligent Surveillance

Current sensors cannot differentiate between human activity and incidental activations caused by animals, seismic activity, or weather, causing agents to be dispatched to false alarms.

**Solution:** Parsons' Intelligent Surveillance spectral imaging technology enables automated detection of humans and surface swimmers, reducing time needed by operators and analysts to review video screens while increasing the overall detection rate.



### PeARL

Remote, rugged, and rural environments comprise the majority of borders making it difficult to obtain comprehensive and detailed information of the infrastructure and topography along the full extent of the border.

**Solution:** Parsons' PeARL 3D aerial imaging system is a high-volume, high-resolution aerial reconnaissance and remote sensing product. When combined with PeARL Flash processing algorithms, the PeARL system forms a powerful mapping and ISR system capable of generating wide-area orthorectified maps and full 3D models in less than 24 hours.



### SIGINT (RF Sensing)

Remote, rugged, and rural areas along borders create challenges for border security, and also provide challenges to illicit individuals and groups as they coordinate their crossing, rendezvous, and transfer of illicit cargo via communication technologies such as cellular, satellite, and push to talk devices. These challenges provide opportunities for border security technologies.

**Solution:** QRC, a Parsons Company, has a variety of passive radio frequency (RF) solutions designed to map the RF activity in a given area in order to develop and expand the RF related forensic-level "footprint". Distributed sensors detect, capture, and alarm to specific RF emissions providing a tool that can alert to illicit activity. Our solutions also capture data that can be used to identify activity associated with the use of RF equipment by entities such as transnational criminal organizations (TCO).



WBT-3003/3100 are fully self-contained RF recording and playback systems that can record up to 100Mhz of RF spectrum from 50Mhz to 6Ghz (100KHz to 6Ghz for WBT-3100). Collected data is time and GPS coded allowing for playback into other signal processing and signal analysis software. Optional software on the WBT allows the user to compare the RF energy in an area to a baseline quickly allowing the user to determine new RF energy and potential signals of interest quickly.



ICS-500 is an autonomous multi-protocol cellular survey solution. Combined with an option QFi module, the user is capable of WiFi survey and PCAP capture. ICS-500 is also capable of accurately locating base station whether the device is deployed on the ground or in manned/unmanned aerial vehicles. Data collected by the ICS-500 is easily converted to a variety of GIS solutions (Rover, RaptorX, Google Earth).



Qp2, an extremely versatile hand-held cellular protocol measurement tool, is available pre-installed on several commercial handsets. Capabilities vary between phone models.

## Relocatable and Fixed Tower Systems

To enhance operational effectiveness and counter evolving and dynamic border threats, situational awareness coupled with physical manpower, tactical infrastructure, and surveillance technologies is required.

**Solution:** Parsons' infrastructure and technology capabilities will allow agents to spend more time responding to incursions and less time detecting them. Parsons' relocatable and fixed tower systems can provide:

- 360 field of view (FOV) detection within an area of interest (AoI)
- Sensors mounted on tower systems
- Limited site disturbance that minimizes environmental, ecological, and geo-political impacts
- Sensor technologies integrated to C2CEN for live monitoring
- EO/IR video cameras for short and long range surveillance



## CACE/AVAA

Border enforcement leverages high bandwidth sensor technology such as video and radar that must be analyzed in real time. Much of the analysis is conducted by human operators due to the complex environment along the border requiring sophisticated video analytic and sensor fusion tools. Dependency on the operator along with normal human conditions such as fatigue and distraction thus directly impact the functionality of the current system.

**Solution:** CACE and AVAA are Government owned (GOTS), open source applications that will interface with current and future sensor systems used in border enforcement and enable more autonomous detection capabilities. These applications are an alternative to expensive proprietary solutions and when combined with other open source algorithms can perform the mission elements of detection, identification, and classification that have been primarily the burden of the operator. These GOTS applications can be integrated with either a COTS or GOTS COP such as the CBP Government owned ICAD/TSM application.



## RoMaN

Borders are comprised of rural and extremely remote areas that are devoid of network infrastructure. Establishing a communications network offering the necessary secure bandwidth for relaying output from high data rate sensors such as video and GSR, and providing tactical voice and video, and data communications (APCO P25) while supporting existing government communications infrastructure, FirstNet, and commercial cellular is extremely expensive and time-consuming.

**Solution:** RoMaN provides a highly mobile, secure system that offers high bandwidth with low latency offering up to 450 Mbps aggregate bandwidth throughput capable of transmitting data, voice and video. RoMaN is a line of sight or near line of sight PTP and PMP solution that is 95% reusable with flexibility to move and interface with other existing Government, FirstNet, and commercial cellular infrastructure as required. RoMaN is U.S. DoD JF-12 certified and 256 AES and FIPS compliant.



## iNET

Congestion at POEs costs time and money and contributes to the deterioration of air-quality conditions. Modernizing automated systems and incorporating integrated signage is critical to create simple, direct traffic movements and efficiencies at border crossings.

**Solution:** iNET is an industry leading smart-city software used to improve the management, efficiency, effectiveness, and safety for transportation systems. iNET provides active traffic management, including variable speed limits, dynamic lane management, intelligent adaptive traffic signal control, and artificial intelligence and machine learning based decision support.



## COUNT ON PARSONS

Parsons (NYSE: PSN) is a leading technology firm driving the future of defense, intelligence, and critical infrastructure. By combining unique technologies with deep domain expertise across cybersecurity, missile defense, space, connected infrastructure, and smart cities, we're providing tomorrow's solutions today.

With a history of disruption beginning in 1944, we apply our distinct perspective to help our customers confront the issues of tomorrow in every domain—land, sea, air, space, and cyber.

Our range of capabilities and our global network of resources lets us layer and integrate solutions to respond to any challenge with unmatched agility. In a time of rapid change, we see infinite sources of inspiration to fuel our creativity and enable the innovation necessary to accomplish our quest of delivering a better world.

For more about Parsons, visit us at [parsons.com](https://parsons.com) and follow our quest on Facebook, Instagram, Twitter, and LinkedIn.

## CONTACT US

**MEGHAN POWELL, PE** / Business Development Manager

Direct: +1 202.384.2380

[meghan.powell@parsons.com](mailto:meghan.powell@parsons.com)

**SEAN BUCKLEY, P.G., PMP** / Program Director

Direct: +1 202.744.6970

[sean.buckley@parsons.com](mailto:sean.buckley@parsons.com)



5875 Trinity Parkway, Suite 140  
Centreville, Virginia 20120  
Direct: +1 703.988.8500  
[parsons.com](https://parsons.com)

© Copyright 2020 Parsons Corporation.  
All Rights Reserved. / EXIM APPROVED #941