



VALOORES Crowd Intelligence System Analyzing Data for Côte d'Ivoire and the Surrounding Region

Côte d'Ivoire, strategically located in West Africa, faces significant security challenges, including the management of smuggling operations and the prevention of terrorist activities. The country's law enforcement agencies are engaged in a continuous effort to address these threats, which are exacerbated by complex cross-border dynamics with neighboring countries.

VCIS provides crucial support through its advanced features and tools including detailed map visualizations and sophisticated queries and analysis tools, are employed to enhance situational awareness and strategic decision-making.



Introduction

Côte d'Ivoire, strategically located in West Africa, is a pivotal country facing a complex security environment shaped by both internal and cross-border challenges. The nation is currently contending with significant issues related to smuggling, terrorism, and overall border security.

Security Status and Challenges in Côte d'Ivoire:

Côte d'Ivoire's security landscape is characterized by a range of challenges that impact both its internal stability and regional security. The country has been grappling with smuggling operations, particularly in relation to drugs, arms, and other illicit goods. These activities are facilitated by Côte d'Ivoire's extensive and often poorly monitored borders, which are exploited by organized crime networks to move contraband into and out of the country.

Additionally, terrorism poses a growing threat, with extremist groups occasionally targeting the region. The proximity to areas with known terrorist activities has heightened concerns about potential spillover effects, making it crucial for Côte d'Ivoire to bolster its security measures.

Challenges Along the Borders:

The border areas with Ghana and Burkina Faso are particularly challenging. These regions are known for their porous boundaries and limited surveillance capabilities, which create opportunities for illegal activities. Smuggling routes often crisscross these borders, facilitated by the rural and sometimes inaccessible terrain. The movement of goods and people through unofficial routes compounds the difficulty of enforcing border controls and maintaining security.

In Burkina Faso, ongoing conflicts and the presence of militant groups have further exacerbated the security situation, with spillover effects impacting neighboring regions. Similarly, Ghana faces its own set of security issues, including cross-border trafficking and the potential for extremist influences.

VCIS Capabilities in Addressing Security Challenges

In this challenging environment, the VALOORES Crowd Intelligence System (VCIS) emerges as a critical tool for enhancing security efforts. VCIS leverages advanced technology to address these complex security issues through its array of features:

- **Detailed Map Visualizations:** VCIS provides high-resolution maps that highlight key infrastructure, such as CCTVs and ATMs, and track activity patterns around these fixed elements. This allows for comprehensive monitoring and identification of potential security threats.
- **Sophisticated Query and Analysis Tools:** The system's analytical capabilities enable the detection of unusual patterns and behaviors. For example, the "Bulk Draw" feature allows for precise analysis of device activity within defined radii, helping to pinpoint areas of interest and potential security breaches.
- **Device History Pattern Analysis:** VCIS can track and analyze the movement and activity of devices over time, providing insights into cross-border activities and

potential links to illicit operations. This is particularly valuable for understanding and addressing smuggling and terrorism-related activities.

Through these advanced tools, VCIS supports law enforcement agencies in Côte d'Ivoire and its neighboring countries by enhancing their ability to detect, analyze, and respond to security threats. The following document illustrates how VCIS is applied to real-world scenarios in Côte d'Ivoire, demonstrating its effectiveness in improving situational awareness and strategic decision-making in the face of complex security challenges.



Why VCIS for Côte d'Ivoire?

The VALOORES Crowd Intelligence System (VCIS) offers tailored solutions that are crucial for addressing the specific security challenges faced by Côte d'Ivoire. Here's how VCIS provides added value to law enforcement agencies in Côte d'Ivoire:

1. Enhanced Timeline Analysis

- **Travel in Time Feature:** VCIS's "Travel in Time" feature allows Ivorian law enforcement to track the movement of devices over time, crucial for reconstructing the activities of suspects involved in smuggling or terrorism.
- **Granular Temporal Visualization:** This tool enables detailed visualization of device activities at precise intervals, helping to uncover patterns related to cross-border illicit activities and adjust security measures accordingly.
- **Interactive Timeline Interface:** The interactive timeline helps officers in Côte d'Ivoire easily navigate and analyze device data from various time periods, facilitating a clearer understanding of trends and suspicious activities.
- **Fragment Selection and Pattern Analysis:** By focusing on specific time fragments, VCIS allows detailed examination of critical periods, aiding in the detection of

covert operations and improving the response to security incidents.

2. Global and Regional Coverage

- **Geospatial Data Integration:** VCIS integrates global geospatial data, offering insights into activities not only within Côte d'Ivoire but also in neighboring countries. This capability is vital for detecting cross-border smuggling routes and understanding regional security dynamics.
- **Cross-Border Analysis:** With its global coverage, VCIS helps identify and analyze connections between devices and events in Côte d'Ivoire, Ghana, and Burkina Faso, facilitating a coordinated approach to regional security challenges.

3. Advanced Data Correlation

- **Integration of Multiple Data Sources:** VCIS excels in correlating data from various sources, such as surveillance footage and device activity logs. For Côte d'Ivoire, this means a comprehensive understanding of security incidents through multiple data points.
- **Co-Traveler Feature:** This feature identifies devices traveling together, which is crucial for

- uncovering smuggling networks or terrorist cells operating across the Ivorian borders. It helps to trace and disrupt coordinated illicit activities.



4. Scenario Execution and Analysis

Scenario-Based Approach: VCIS supports the execution of complex investigative scenarios by sequencing various queries and analysis tools. For Côte d'Ivoire, this means a structured approach to investigating cross-border smuggling, terrorism threats, and other security challenges, ensuring a thorough and organized response.

5. Versatile Query Types

- **Activity Scan by Hits:** This query allows Ivorian authorities to detect and analyze device activity in specific locations, such as border areas or high-security zones, providing insights into potential threats and enhancing security measures.
- **Device History:** VCIS tracks the historical movements and behaviors of devices, helping to investigate suspicious patterns

related to smuggling and terrorism within Côte d'Ivoire and its borders.

- **Device History Pattern:** By analyzing historical patterns, VCIS helps identify irregular activities that may indicate smuggling operations or terrorist activities, allowing for preemptive actions.
- **Fixed Element Scan:** This query focuses on device activity around fixed elements like CCTVs and ATMs, which is crucial for monitoring key infrastructure and identifying potential security breaches.
- **Fixed Element Activity Scan:** This scan provides detailed analysis of activity around specific fixed elements, helping to assess the effectiveness of security infrastructure and detect unusual patterns that require attention.

6. Knowledge Graph / Link Analysis

Through advanced link analysis, VCIS helps uncover relationships between entities, visualizing connections that might otherwise remain hidden. This is critical in identifying networks of criminal or terrorist activity that span across Côte d'Ivoire and its borders.

By leveraging these capabilities, VCIS enhances Côte d'Ivoire's ability to monitor, analyze, and respond to security threats effectively. The system's advanced features provide crucial support in improving situational

awareness, strategic decision-making, and overall security management in the face of complex regional challenges.

Fixed Elements Scan & Bulk Draw

The screenshot below displays a map of the Airport of Côte d'Ivoire and its surrounding area. It highlights the locations of fixed elements, including CCTVs and ATMs, strategically positioned

throughout the airport and its vicinity. Each fixed element is marked with a distinct icon, providing a clear overview of the infrastructure in place for security and operational purposes.

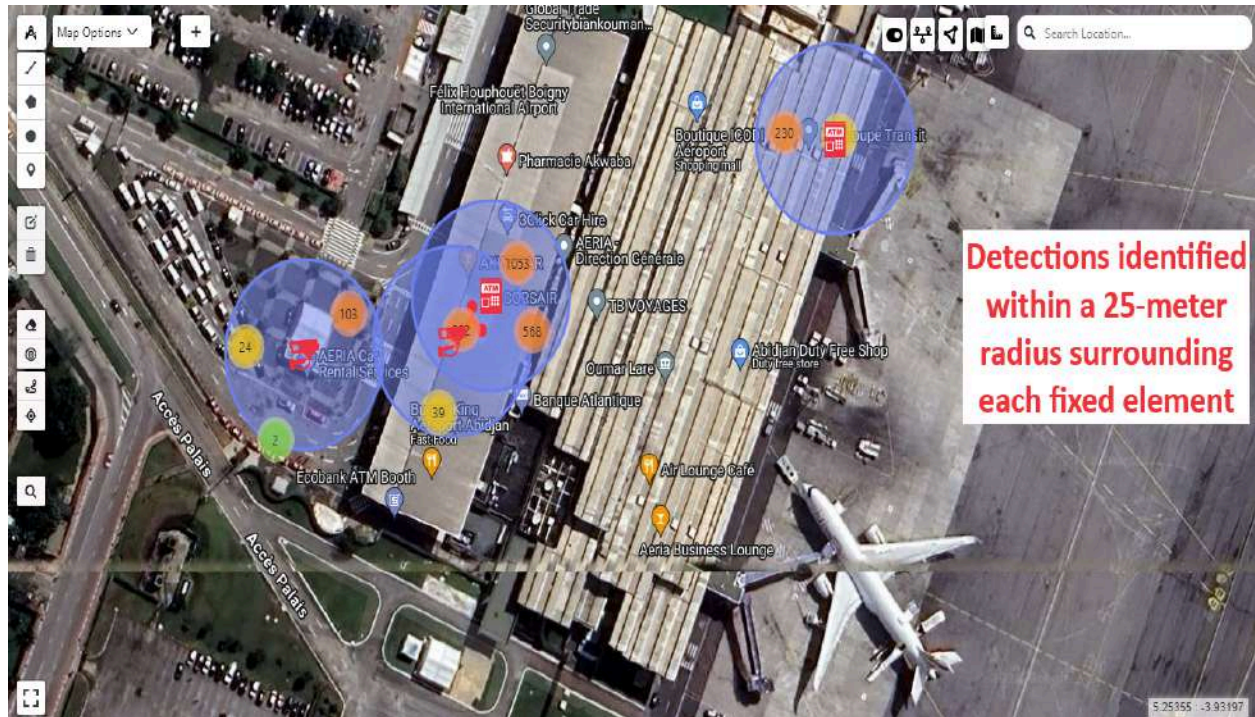


The screenshot below shows the detection of hits related to devices

within a 25-meter radius around each fixed element from the previous map.

The results were obtained using the **"Bulk Draw"** feature, which allows us to precisely define the radius around each fixed element. The visual highlights the areas where device-related activity has

been detected, with hits marked around the CCTVs, ATMs, and other fixed elements, clearly showing the proximity and extent of the detected activity.



Suspicious Device Activity Detected Near Côte d'Ivoire-Ghana Border

This screenshot displays the detection of three device IDs in a rural area near the Côte d'Ivoire-Ghana border. The map highlights these devices, which have registered a notably high number of hits, raising suspicions about their activity. The irregular pattern of hits, characterized by unusually low activity,

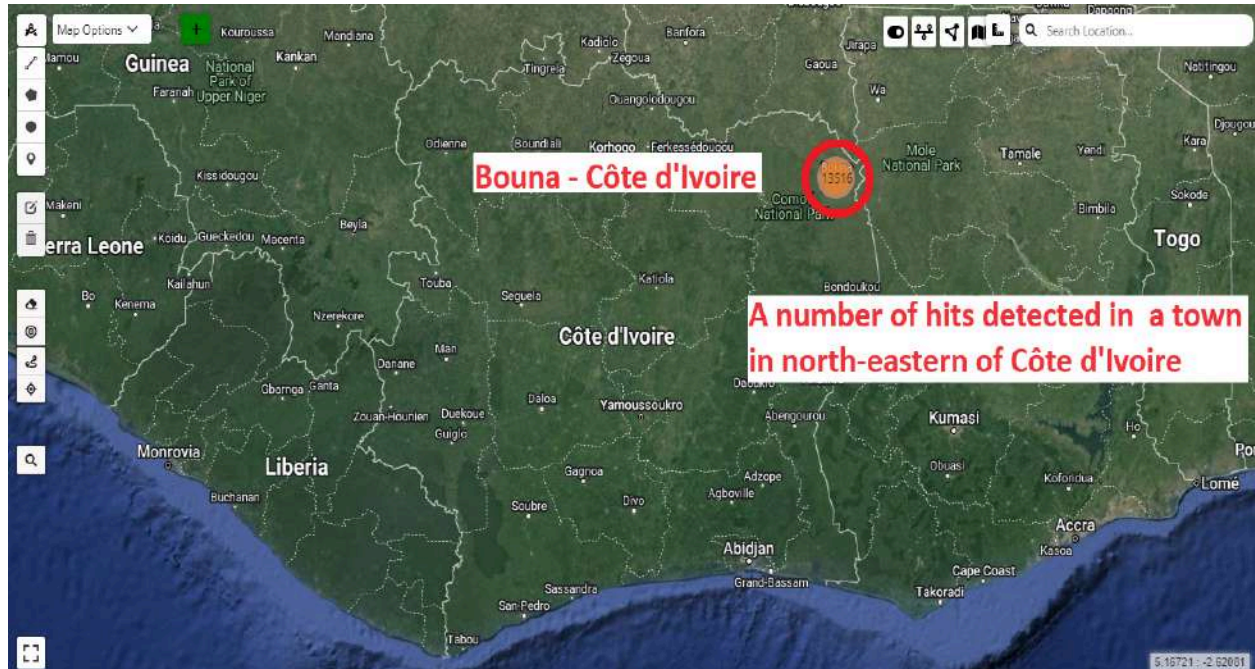
suggests potential criminal behavior or other illicit activities. Additionally, the devices' owners are suspected of frequently turning off their devices to avoid detection and remain concealed. This pattern warrants further investigation to assess the nature and extent of any potential illegal activity in the region.



Bona Activity Scan Followed by DHP of the detected devices

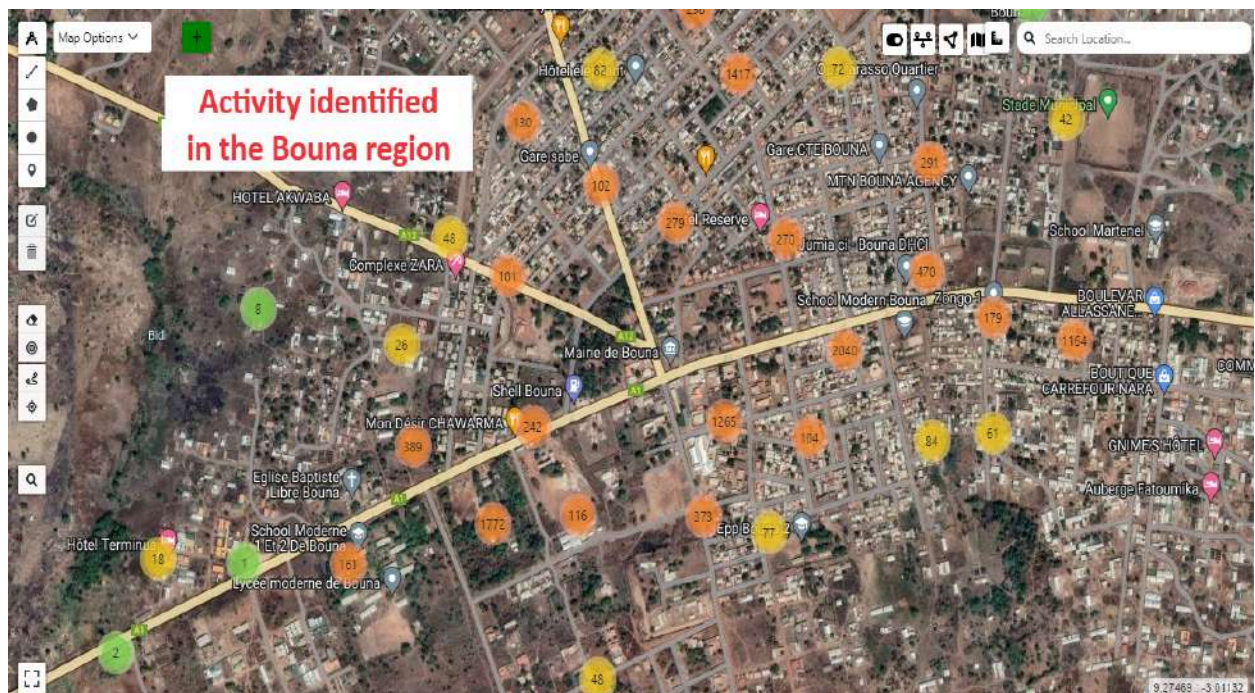
This screenshot provides a broad view of an activity scan conducted in the town of Bona, located in north-east Côte d'Ivoire. It highlights the substantial number of hits and devices detected in

this area, indicating a high level of activity. The map offers a general overview of the scope and intensity of the detected activity within Bona.



The second screenshot zooms in on specific areas within Bouna, presenting a more detailed look at the distribution and density of hits and devices. This closer view reveals concentrated clusters

of activity, further emphasizing the significant volume of detected incidents and allowing for a more granular analysis of the data.



Device History Pattern Analysis

The third screenshot displays the results of a subsequent Device History Pattern analysis conducted for the devices identified in the initial scan. This detailed query shows numerous hits across various locations within Côte d'Ivoire, as well as some devices appearing in bordering areas of Ghana and Burkina

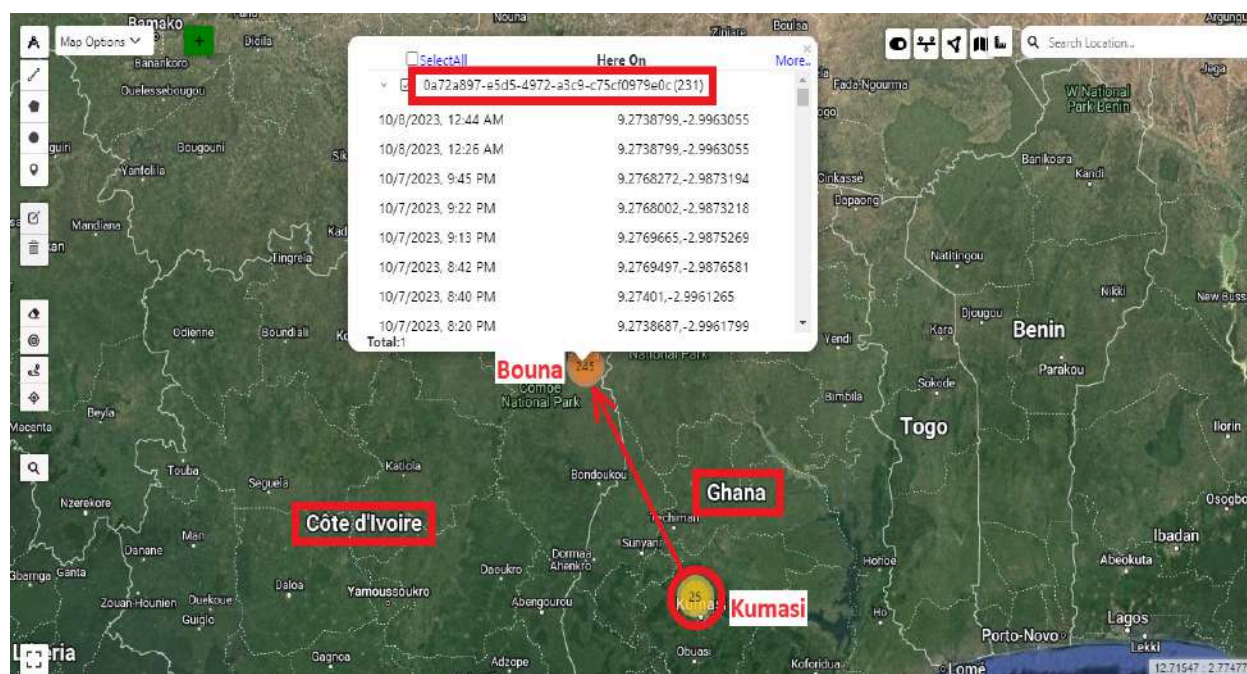
Faso. The limited activity in these border regions, coupled with the absence of similar incidents elsewhere, suggests potential use of rural or unauthorized routes for crossing borders. This pattern is considered suspicious and warrants further investigation to assess possible illicit activities or smuggling operations.



Detection involving a device ID that has raised some concerns.

A Device History query was conducted that identified a device traveling from Kumasi, Ghana, and entering the Bouna region. The nature of this movement, combined with certain patterns observed, suggests a potential link to illicit activities, including terrorism or smuggling, between the two countries.

While this is not a definitive conclusion, the device's route, originating from a known area of concern and crossing into another region with a history of cross-border criminal activities, warrants further investigation. The possibility of this device being involved in such activities is significant enough to merit a closer examination.



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