

# CDR Analytics Solution

## Product Sheet

Reveal hidden insights and make data-driven decisions based on communication evidence.



## Problem And Challenges

Call Detail Records (CDR) and Internet Protocol Data Records (IPDR) are telecommunications data with information about phone activity that can aid investigations by revealing communication patterns, relationships with associates, and location data. By analyzing such data You can identify individuals who pose a threat to society and significantly ensure public safety.

However, understanding communication data can be **difficult** without specialized software because it is a **time-consuming** task that requires technical **expertise** to extract meaningful insights.



### Cogniware CDR Analytics Solution

Cogniware CDR Analytics Solution is a secure on-premise software platform to explore CDR and IPDR data in an efficient way and allows user friendly visual investigation using graph analysis, maps, timelines and dashboards. It ensures shorter resolution times, enhanced accuracy, unmatched customizability and high scalability.

## Business Value and Benefits <sup>1</sup>

1. **Understand hidden insights** in CDR data provided by mobile network operators and find answers to the investigation questions.
2. **Decrease time** to find answers in CDR data **by up to 40%**, allowing for faster decision-making and increased efficiency.
3. **Improve case resolution rate** by approx. **35%** thanks to decreased human error, which allows structuring and analyzing data more accurately.
4. **Enable non-tech analysts** (usually **90%** of all staff) to analyze communication data via an easy to use system.

<sup>1</sup> Based on our delivered implementations in the EMEA region in 2021-2023.

5. **Allocate valuable experts** on important tasks rather than performing routine tasks thanks to automation.

## Use Cases For Cogniware CDR Analytics Solution

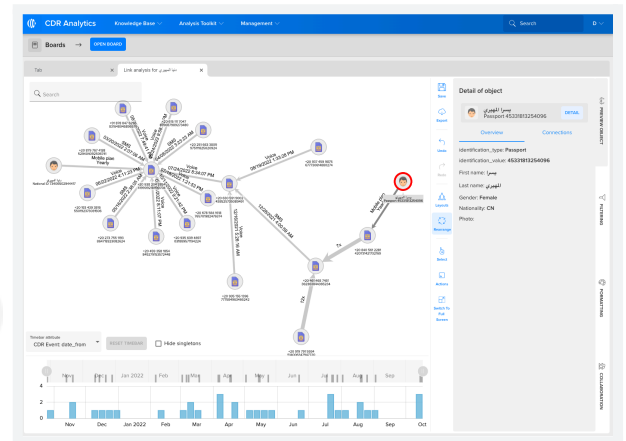
### Identifying relationships between subscribers and devices

Our solution analyzes call data to identify connections between people or groups, helping investigators build a clearer picture of the relationships involved in a case.



Find accomplices

Explore structures of people networks

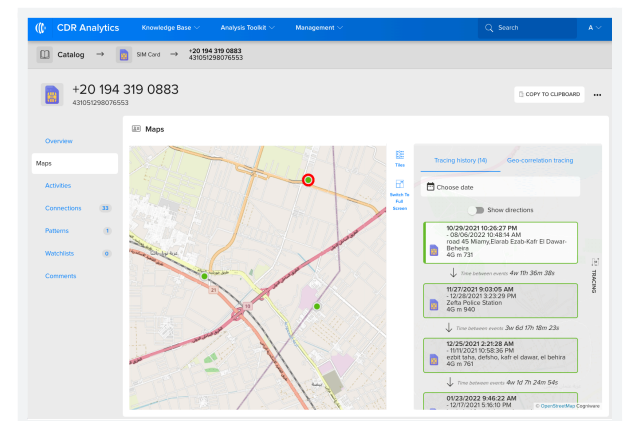


### Mapping the location and movement

Our solution tracks the location history of individuals based on their connection to cell towers. This can be helpful for identifying the movements and establishing their whereabouts of wanted or missing people. System naturally supports advanced area search to find relevant targets at specific times.



Tracking position of an individual



Finding missing people

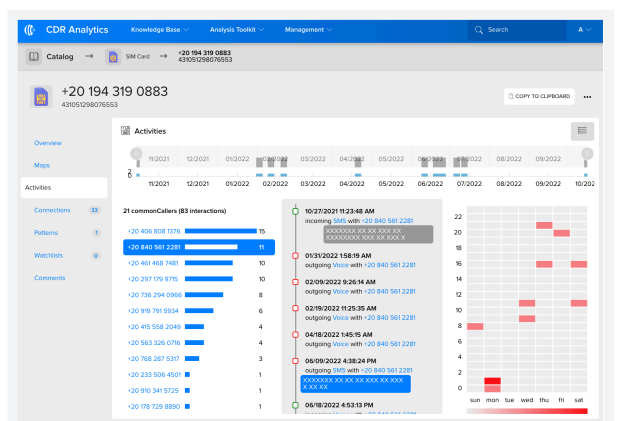
### Establishing timelines and understanding behavior patterns

Our solution establishes a timeline of phone activity, which can be helpful in reconstructing the chronology of crime events. The system identifies behavior patterns, such as frequent calls to a particular number or location, which can help investigators understand anomalies and intentions of suspects.



Confirmation of witness statements

Spot anomalies in behavior



## Features

Cogniware CDR Analytics Solution includes following functionalities:

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| <ul style="list-style-type: none"><li><input checked="" type="checkbox"/> Entity focused investigation<ul style="list-style-type: none"><li><input checked="" type="checkbox"/> Mobile number (MSISDN) analysis</li><li><input checked="" type="checkbox"/> Common callers</li><li><input checked="" type="checkbox"/> Common locations, movements, and routes</li><li><input checked="" type="checkbox"/> IMEI analysis, SIM swap, Type Allocation Code (TAM) database</li><li><input checked="" type="checkbox"/> Subscriber detail record analysis</li><li><input checked="" type="checkbox"/> IPDR analysis</li><li><input checked="" type="checkbox"/> Cell tower dump analysis</li></ul></li><li><input checked="" type="checkbox"/> Maps and geospatial analysis</li><li><input checked="" type="checkbox"/> Rich visualization options using charts</li><li><input checked="" type="checkbox"/> Link analysis and data exploration</li></ul> | <ul style="list-style-type: none"><li><input checked="" type="checkbox"/> Temporal analysis</li><li><input checked="" type="checkbox"/> Multilanguage support</li><li><input checked="" type="checkbox"/> Powerful search<ul style="list-style-type: none"><li><input checked="" type="checkbox"/> Search object by identifiers</li><li><input checked="" type="checkbox"/> Search objects by advanced filter criteria</li><li><input checked="" type="checkbox"/> Search by location</li><li><input checked="" type="checkbox"/> Search by behavior pattern</li></ul></li><li><input checked="" type="checkbox"/> Collaboration and actionable outputs dissemination (exports)</li><li><input checked="" type="checkbox"/> Manual inputs and automated imports</li><li><input checked="" type="checkbox"/> Personalization and customizations</li><li><input checked="" type="checkbox"/> Data protection and advanced security</li></ul> |
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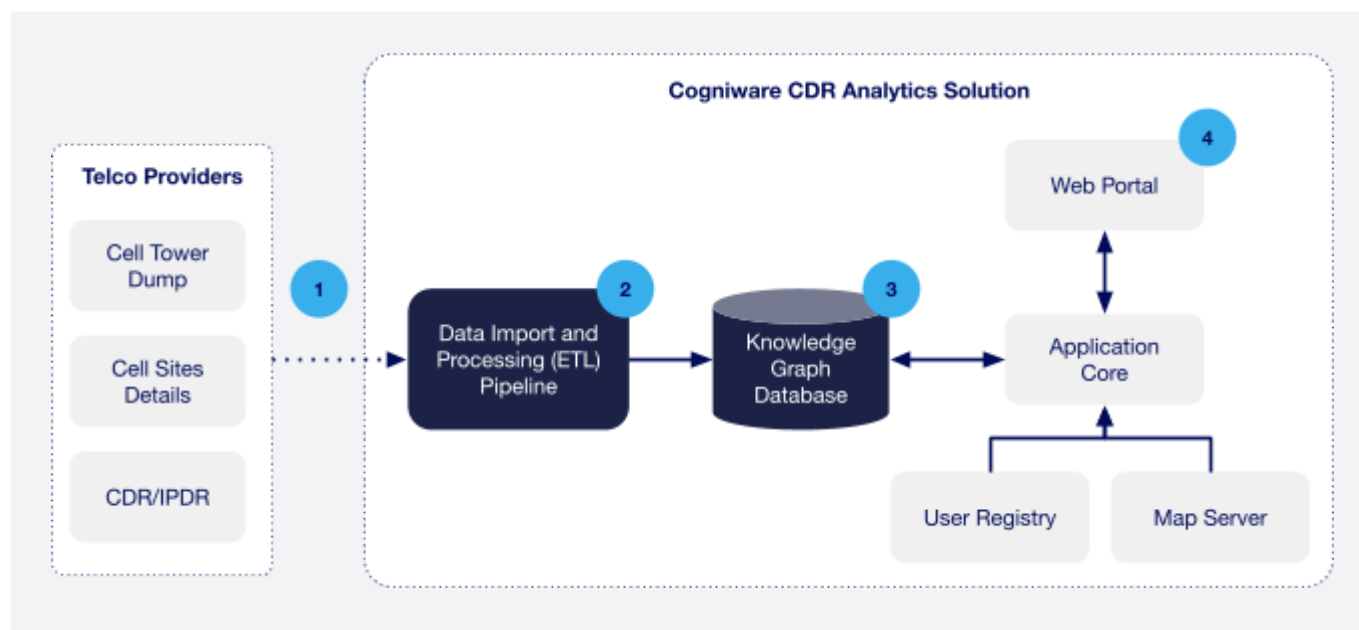
## Technical Capabilities and Architecture

- Automated and standardized data exchange compatible with CDR formats provided by mobile network operators.
- Deduplication and cleansing data during import.
- Specialized analytical tools are instantly ready for CDR-related investigation tasks.
- Built for efficient large data load and processing/transformations and optimized for query performance.
- Extend the solution with OSINT, forensics, multimedia analytics or other databases.



### How Cogniware CDR Analytics Solution Works

1. CDR data is collected from mobile network operators in various formats. Technical structure of CDR data varies, but our data schema is consistent and can map to any format provided.
2. System automatically ingests the data in bulk or allows the user to import them manually. System then takes care of the rest - transformations to shape data for powerful analytics, apply geocoding, deduplication and data normalizations.
3. Data is securely stored in a knowledge graph database with restricted and controlled access.
4. Users may perform on-demand analysis instantly.



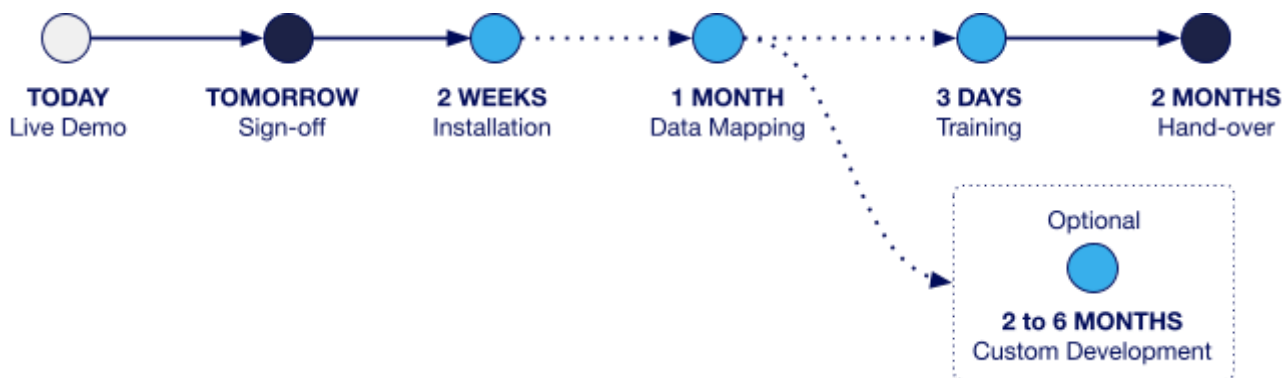
### Required Infrastructure

Cogniware CDR Analytics Solution is available entirely on-premise, meaning you can be assured that your data stays within your organization's boundaries.

Hardware requirements are subject to specific sizing of a project. Please contact our representative to present you with relevant technical details.

### Project Delivery

Typical project delivery time is ranging from 2 months (off-the-shelf installation) to 6 months (when custom requirements are delivered using our professional services). Typical timeline of our delivery is following:



## Success Story

Through Cogniware CDR Analytics Solution, an intelligence agency in the MEA region was able to achieve a significant increase in operational efficiency. Our solution enabled them to analyze vast amounts of data (tens of thousands events daily), leading to a 40% reduction in time spent on manual analysis.

Furthermore, our solution provided the agency with insights into the communication patterns of their targets, which resulted in a 35% increase in successful operations. This means that the agency was able to neutralize threats more effectively, ultimately leading to a safer and more secure region.

The implementation project for our CDR analytics solution was a comprehensive undertaking that took 6 months to complete.

The project began with an assessment of the agency's needs, including an evaluation of their existing infrastructure and data sources. From there, our team worked closely with the agency to design customizations that helped to meet their specific requirements, including project-specific anomaly detection machine learning models.

We provided extensive training and support to agency staff to ensure that they are fully equipped to use the solution effectively. Our comprehensive approach to implementation ensured a smooth and successful delivery of our CDR analytics solution.

Overall, our CDR analytics solution has provided the Customer with actionable insights that have led to increased operational efficiency and improved mission-critical outcomes.

# Multimedia Analytics Solution

## Product Sheet

Effortlessly understanding the content and context of multimedia files, including images, videos, audio, and text, is the key to enhancing Your investigative capabilities.



## Problem And Challenges

Nowadays, any investigation, such as criminal inquiry, counter-terrorism, or secret service operations, struggles with vast amounts of evidence data collected. Scanned documents, photos, voice recordings, camera recordings, pictures from phones, social media posts and profiles, etc., need to be collected and analyzed. In any investigation, time and evidence's quality are crucial, and decisions must be made based on all available information.

However, understanding multimedia content can be **difficult** without specialized software because it is a **time-consuming** task that requires **human force** and depends on their consistency and accuracy to extract meaningful insights.



### Cogniware Multimedia Analytics Solution

Cogniware Multimedia Analytics Solution is a secured on-premise software that allows analysts to effectively investigate dangerous, criminal, or illicit activities, transactions, or human relationships from any type of digital evidence, including video, image, textual content, audio recordings and combine it with structured data from databases, OSINT or government registries.

Extracting the important information from the multimedia is a complex task consisting of many steps, including data ingestion and conversion, extracting key information, and storing it in secured storage for further analysis. Applying AI processing modules like facial recognition, speaker identification, text extraction, object detection, or speech-to-text transcript is used to extract who, when, where, and how. The analyst or investigator can then utilize all the extracted information to formulate the proper question like:

- "Show me all people in red shirts and blue caps near a groceries store"
- "Show me all green cars with license plate matching expression XXX-4A23 that were on 20.3.2022 in 1982 Grant Branch, Prague, Czech Republic"

The outcome of such search may be further analyzed using the link analysis and combine the multimedia content with structured data from databases, Excel sheets or other sources.

## Business Value and Benefits <sup>1</sup>

1. **Understand hidden insights** in multimedia data and find answers to the investigation questions.
2. **Decrease the time** to find answers in multimedia data **by up to 90%**, allowing for faster decision-making and increased efficiency.
3. **Improve case resolution rate by** approx. **35%**, thanks to decreasing human error, benefiting from structuring and analyzing data more accurately.
4. **Enable non-tech analysts** (usually **90%** of all staff) to analyze multimedia data via an easy-to-use system.
5. **Allocate valuable experts** on important tasks rather than performing routine tasks thanks to automation.

## Use Cases For Cogniware Multimedia Analytics Solution

Cogniware Multimedia Analytics Solution offers a wide range of use cases for analyzing multimedia content:

1. Analyze Objects Automatically Recognized in Multimedia Content
2. Discover Everything About a Specific Target Across Multimedia (360° View)
3. Visualize Relationships Between People From Multimedia
4. Search Individuals or Objects By Behavior or Appearance

### 1. Analyze Objects Automatically Recognized in Multimedia Content

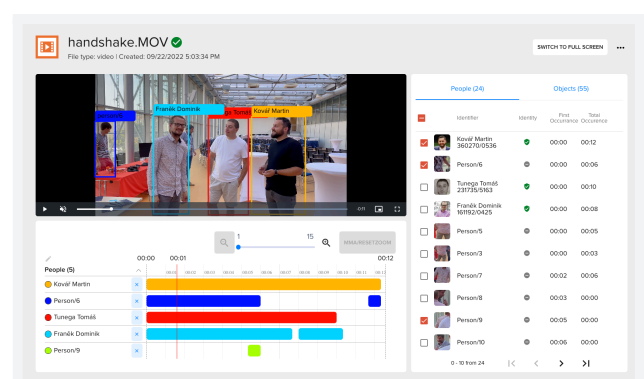
Instead of manual inspection of a video, audio or textual file, you can let our solution take care of the analysis and automatically detect people, cars, or other objects. Analysts save time this way by focusing only on outputs.

#### Detect people, vehicles, or other object types

A multimedia analytics solution can automatically identify and extract over 200 types of objects using state-of-the-art computer vision techniques. It can also track objects over time for better visual reference.

#### Read text from image/video

Recognize texts on objects within the image or video footage, such as vehicle license plates, logos, and text on banners or vehicles. The system can also annotate the meaning of the extracted text and categorize it into classes like Person, Organization, Location, and 20 other types.



<sup>1</sup> Based on our delivered implementations in the EMEA region in 2021-2023.

## 2. Discover Everything About a Specific Target Across Multimedia (360° View)

By having all the relevant multimedia content in one place, it saves time and effort that would otherwise be spent searching for individual files.

### Timelines and behavior patterns

Our solution establishes a timeline of persons or vehicle activity in location (CCTV position), which can be helpful in reconstructing the chronology of crime events and visualizing results on the map. The system identifies behavior patterns, such as frequent occurrences to a particular location, which can help investigators understand anomalies and intentions of suspects.

### Biometrics management

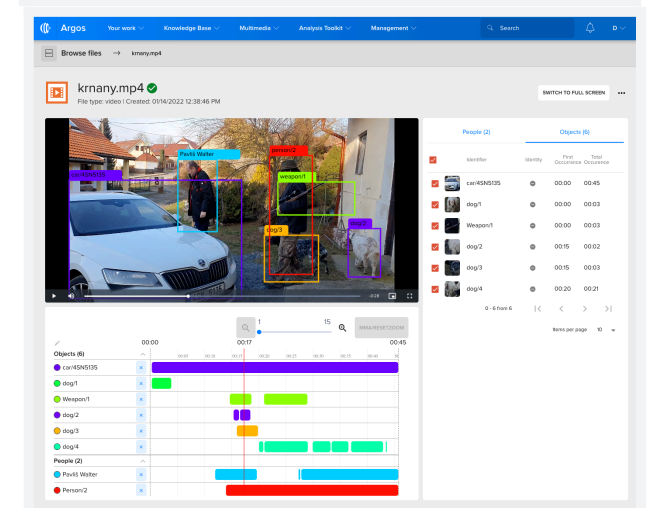
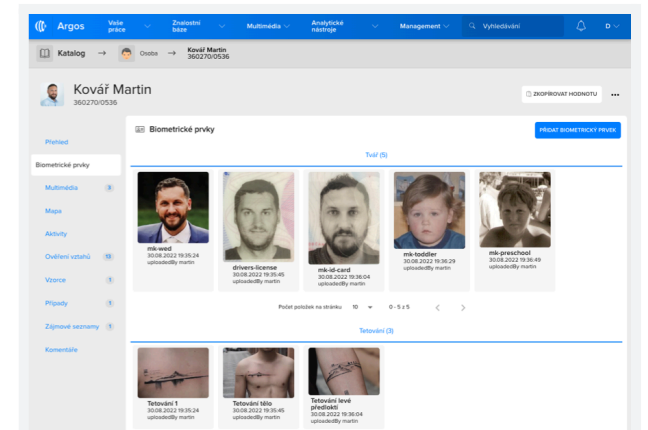
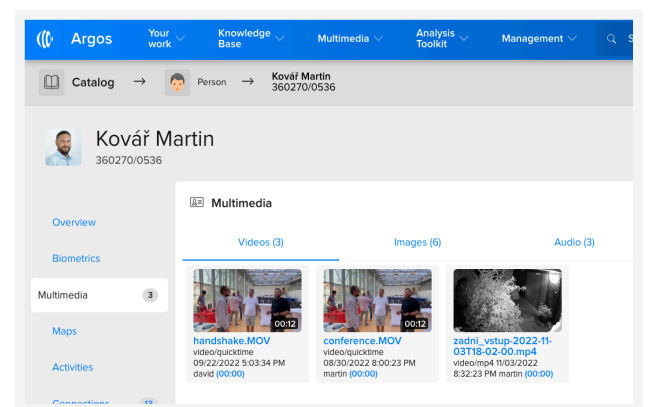
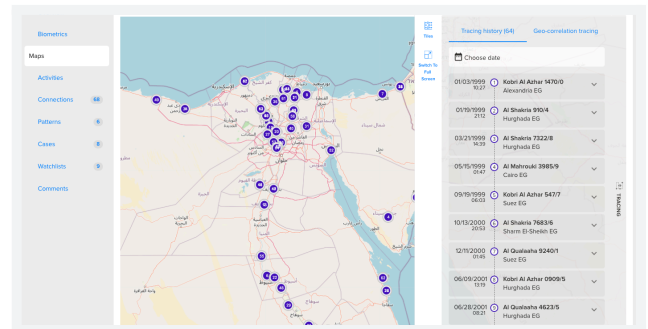
Manage all biometric features for a specific person in one place and see all relevant occurrences of that person across all multimedia content. This helps to build a correlated view on all relevant events, occurrences, relationships, or behavior.

### Identification of suspects with face recognition

The system can compute faceprints from various civil registries containing the identities of people and associated portrait photographs. This provides the ability to search and identify a person based on their occurrence in individual registers by inserting the photo of a specific person (or multiple different photos). The success rate of Face Recognition Technology is top-notch and reaches 98.74%, according to the Face Detection Data Set and Benchmark (Fddb).

### Speaker Identification and Transcription of audio recordings (STT)

STT is a transcription of audio recordings into machine-readable text. The system automatically marks the basic types of annotations in the transcript (name, surname, birth number, telephone number, etc.). In each audio recording, the system detects the match of the voice imprint with the central identity database and thus recognizes which persons appear in the recording. Third-party modules can be added as options to allow automatic translation from one language to another.



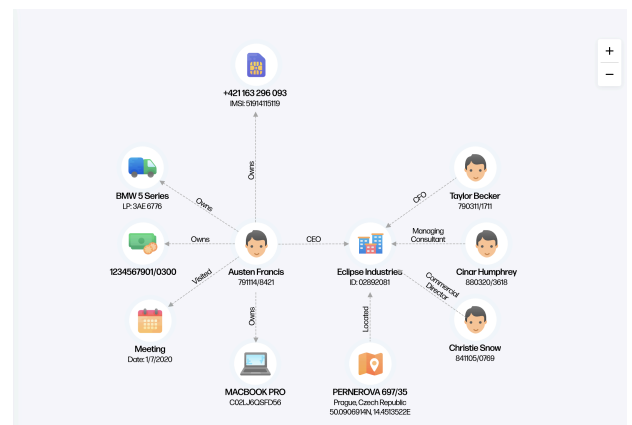
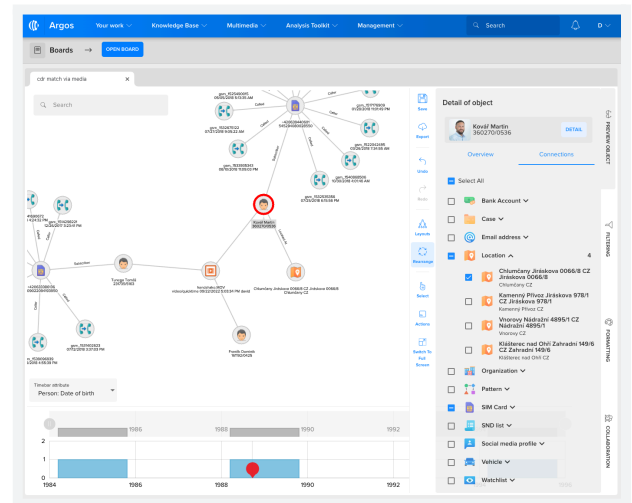
### 3. Visualize Relationships Between People From Multimedia

#### Identifying relationships between people from multimedia

Build a complex network chart of all people seen together in video footage automatically using biometrics identity management and face recognition. Create and visualize a graph of the connection ("spider") to each person who appears with whom on the record. This way, users can confirm if two people are connected in any way (they occurred in one place, in one multimedia file).

#### Comprehensive investigation in all types of information

Combining all available information, both structured and unstructured (common text), with information from multibiometric processing (image, video, audio, etc.) together with object recognition allows you to consolidate a robust investigation evidence database. Now you can perform comprehensive investigation processes and tasks more effectively and with higher accuracy.



### 4. Search Individuals or Objects By Behavior or Appearance

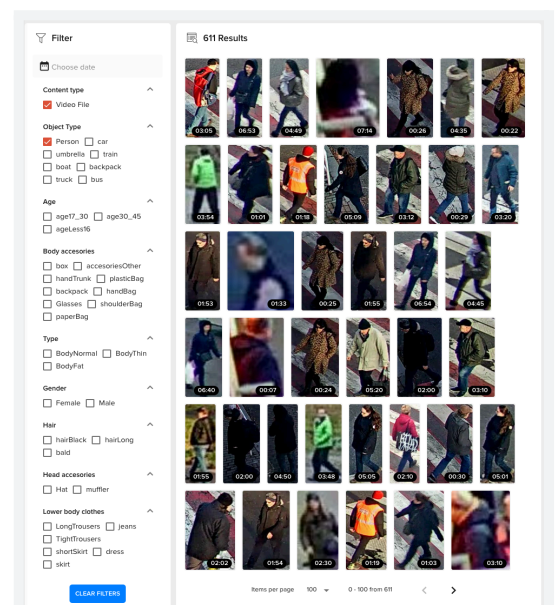
Multimedia files (image, video, audio) are indexed to enable search for specific people or selected types of objects (brands and colors of cars, common objects such as luggage, topics of conversation, etc.). Existing multimedia archives can be indexed, or ad-hoc analysis of the evidence obtained can be performed. Multiple people can be searched together to find their common picture. Defined groups of objects can also be discovered (car, luggage, weapon, etc.).

#### Search for individuals based on attributes

Search for suspects based on their occurrence in individual files by inserting single or multiple photos of the person or defining the attributes (age, gender, clothes color, clothes type, accessories, etc.) manually using conditional search.

#### Search by behavior pattern

Search by frequency of occurrence in a given time period and geolocation area across records.



## Features

Cogniware Multimedia Analytics Solution includes following functionalities:

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| <ul style="list-style-type: none"><li><input checked="" type="checkbox"/> Video analysis capabilities include<ul style="list-style-type: none"><li><input checked="" type="checkbox"/> Object detection</li><li><input checked="" type="checkbox"/> Face recognition built-in</li></ul></li><li><input checked="" type="checkbox"/> Audio analysis capabilities include<ul style="list-style-type: none"><li><input checked="" type="checkbox"/> Language identification</li><li><input checked="" type="checkbox"/> Speaker identification</li><li><input checked="" type="checkbox"/> Text to Speech synthesis</li><li><input checked="" type="checkbox"/> Speech to Text transcription</li><li><input checked="" type="checkbox"/> Speakers diarization</li><li><input checked="" type="checkbox"/> Noise removal</li><li><input checked="" type="checkbox"/> Text translations</li><li><input checked="" type="checkbox"/> Merge/split audio</li><li><input checked="" type="checkbox"/> Voice activity detection</li></ul></li><li><input checked="" type="checkbox"/> Text processing<ul style="list-style-type: none"><li><input checked="" type="checkbox"/> Entity extraction</li><li><input checked="" type="checkbox"/> Fulltext search</li></ul></li><li><input checked="" type="checkbox"/> Biometrics management</li></ul> | <ul style="list-style-type: none"><li><input checked="" type="checkbox"/> File management and storage</li><li><input checked="" type="checkbox"/> Maps and geospatial analysis</li><li><input checked="" type="checkbox"/> Rich visualization options using charts</li><li><input checked="" type="checkbox"/> Link analysis and data exploration</li><li><input checked="" type="checkbox"/> Temporal analysis</li><li><input checked="" type="checkbox"/> Multilanguage support</li><li><input checked="" type="checkbox"/> Powerful search<ul style="list-style-type: none"><li><input checked="" type="checkbox"/> Search object by identifiers</li><li><input checked="" type="checkbox"/> Search objects by advanced filter criteria</li><li><input checked="" type="checkbox"/> Search by location</li><li><input checked="" type="checkbox"/> Search by behavior pattern</li></ul></li><li><input checked="" type="checkbox"/> Collaboration and actionable outputs dissemination (exports)</li><li><input checked="" type="checkbox"/> Manual inputs and automated imports</li><li><input checked="" type="checkbox"/> Personalization and customizations</li><li><input checked="" type="checkbox"/> Data protection and advanced security</li></ul> |
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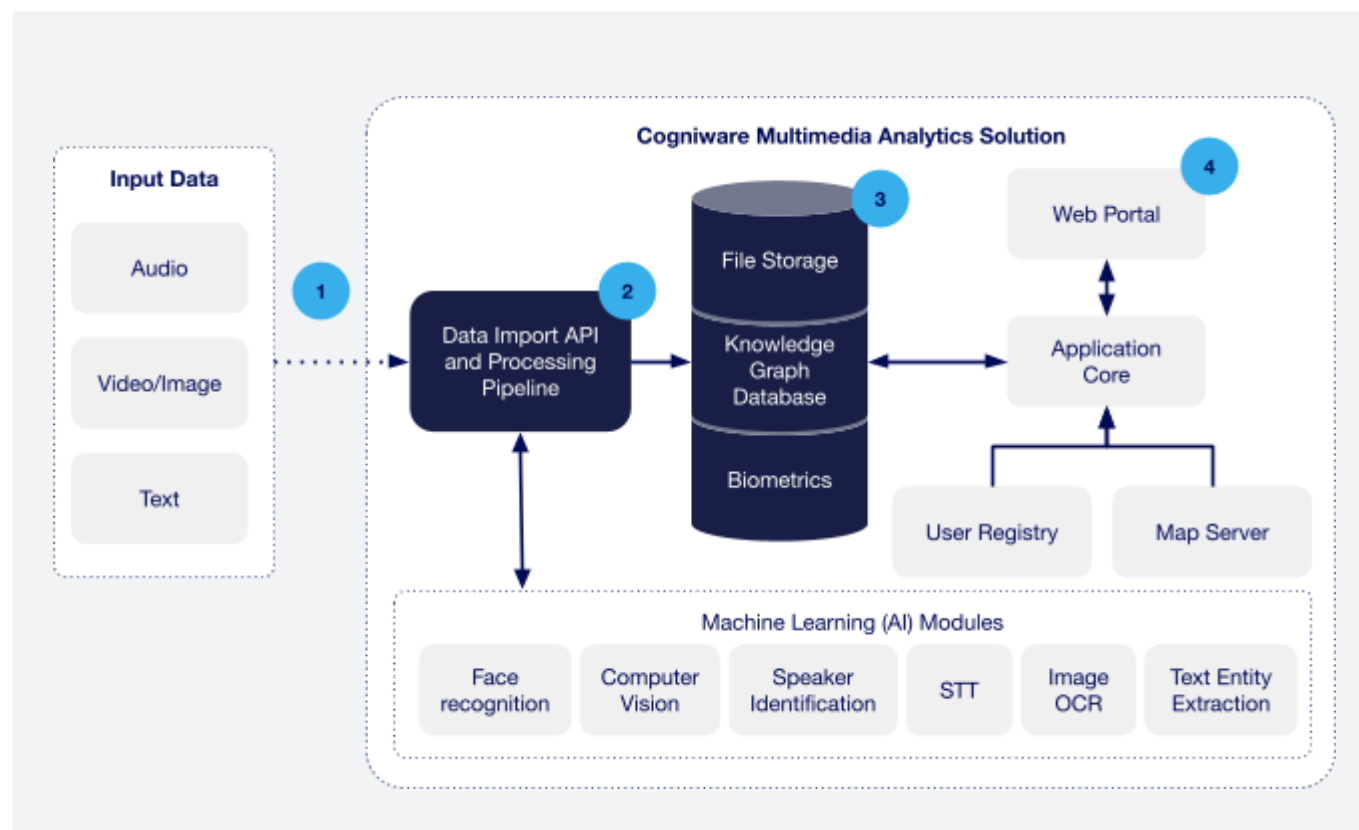
## Technical Capabilities and Architecture

- Secured multimedia files storage and management.
- Import and export API to ensure standardized and open architecture and integration options.
- Specialized analytical tools are instantly ready for multimedia-related investigation tasks.
- Built for efficient large data load and processing/transformations and optimized for query performance.
- Extend the solution with OSINT, forensics, or other databases.



### How Cogniware Multimedia Analytics Solution Works

1. Multimedia content can be uploaded by users manually, pushed by external systems via API, or collected automatically in bulk from local or remote locations.
2. Each multimedia file processing is managed by an orchestrator component, which distributes the processing to individual specialized modules like Face recognition, Object detection, Color classification, etc., based on the processing pipeline configuration.
3. All automatically extracted insights are stored in specially designed secured databases.
4. System previews the analyzed content with annotations and allows users to search within these insights.



### Required Infrastructure

Cogniware Multimedia Analytics Solution is available entirely on-premise, meaning you can be assured that your data stays within your organization's boundaries.

Hardware requirements are subject to the specific sizing of a project. Please contact our representative to present you with relevant technical details.

### Project Delivery

Typical project delivery time ranges from 3 months (off-the-shelf installation) to 6 months (when custom requirements are delivered using our professional services).

# Investigation for Prisons

## Product Sheet

Uncover the suspicious behavior of prisoners with Augmented Intelligence.



## Problem And Challenges

**Prison facilities** face numerous challenges when it comes to **maintaining order**, managing prisoner populations, and **ensuring the safety of both prisoners and staff**. To address these challenges, the use of advanced technology and data analysis has become increasingly prevalent in the field of corrections.

However, understanding relations with all the collected data can be **difficult** without specialized software since it is a **time-consuming** task that requires technical **expertise** to extract meaningful insights.



### Cogniware Investigation for Prisons

Cogniware Investigation for Prisons is a secure on-premise tool for prison analytics, empowering analysts and investigators to gain insights into prisoner relationships, behavior patterns, and potential security threats. By harnessing the capabilities of this technology, correctional facilities can ensure the safety of prisoners and staff, mitigate risks, and optimize their operational processes for more effective corrections management.

## Business Value and Benefits <sup>1</sup>

1. **Data model** and **analytical patterns** are designed for prison data investigation.
2. **Instant access** to a complete **prison record** and its history.
3. **Reveals and highlights** the non-standard **relationships** and behavior of prisoners between themselves or with persons outside the prison.
4. **Alerts analysts** when **automatically detects** nonstandard behavior.
5. **Summarizes all the activities** of the **prisoner** and **prisoner's relationships** with other people.
6. **Decrease of time** to find connections **from days to minutes**.

<sup>1</sup> Based on our delivered implementations in the EU region in 2019-2023.

## Use Cases For Cogniware Investigation for Prisons

### Identifying Potential Witnesses or Informants

By analyzing communication logs, visitation records, and prisoners associations, the system can help identify prisoners who may have information or connections relevant to an ongoing investigation. This information can assist investigators in locating potential witnesses or informants who can provide crucial evidence.

### Disrupting Gang Influence

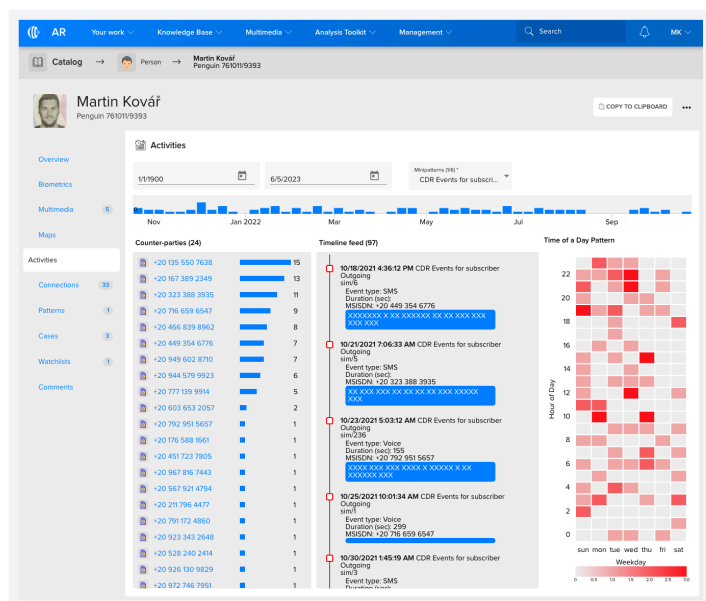
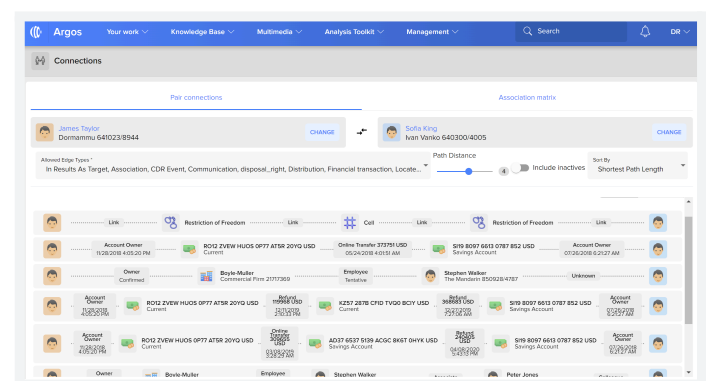
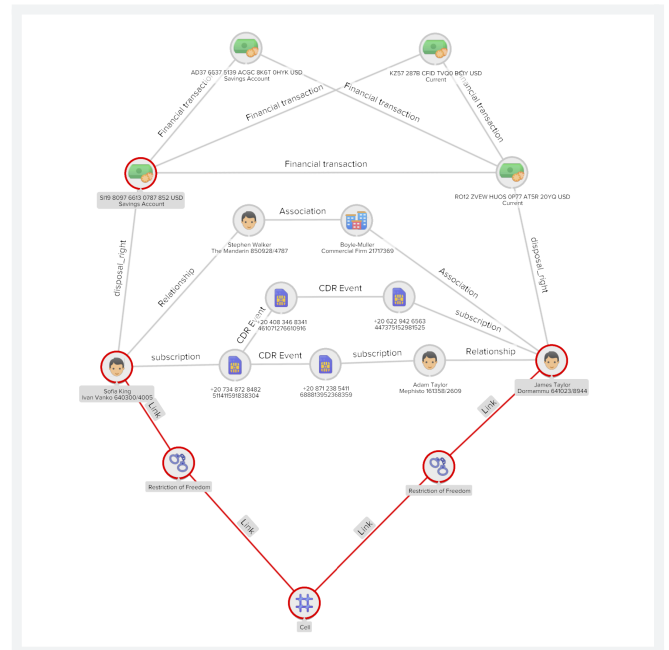
Investigators can identify connections between new prisoners and existing prisoners who may be associated with gangs or organized crime. By strategically placing new prisoners away from influential gang members, administrators can mitigate the risk of gang recruitment, violence, or illegal activities within the correctional facility.

### Contraband Detection and Prevention

By analyzing communication patterns and relationships, the system can identify potential channels for contraband introduction. Administrators can apply targeted measures to detect and prevent the smuggling of drugs, weapons, cell phones, and other prohibited items within the prison.

### Staff Safety and Security

By analyzing prisoner behavior, affiliations, and historical incidents, link analysis software helps identify potential risks to staff members. Administrators can take proactive measures to enhance staff safety, such as adjusting staff assignments, implementing additional security measures, or providing targeted training programs.



## Features

Cogniware Investigation for Prisons includes following functionalities:

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| <ul style="list-style-type: none"><li><input checked="" type="checkbox"/> Face Recognition</li><li><input checked="" type="checkbox"/> Voice Recognition</li><li><input checked="" type="checkbox"/> Audio and Video Analytics</li><li><input checked="" type="checkbox"/> Named Entity Extraction</li><li><input checked="" type="checkbox"/> Alerts</li><li><input checked="" type="checkbox"/> Audit history</li><li><input checked="" type="checkbox"/> Entity Detail (360° View)</li><li><input checked="" type="checkbox"/> Insights and Suspicious Patterns</li><li><input checked="" type="checkbox"/> Rich visualization options using charts</li><li><input checked="" type="checkbox"/> Link analysis and data exploration</li><li><input checked="" type="checkbox"/> Temporal analysis</li></ul> | <ul style="list-style-type: none"><li><input checked="" type="checkbox"/> Multi Language support</li><li><input checked="" type="checkbox"/> Powerful search<ul style="list-style-type: none"><li><input checked="" type="checkbox"/> Search object by identifiers</li><li><input checked="" type="checkbox"/> Search objects by advanced filter criteria</li><li><input checked="" type="checkbox"/> Search by behavior pattern</li></ul></li><li><input checked="" type="checkbox"/> Collaboration and actionable outputs dissemination (exports)</li><li><input checked="" type="checkbox"/> Manual inputs and automated imports</li><li><input checked="" type="checkbox"/> Personalization and customizations</li><li><input checked="" type="checkbox"/> Data protection and advanced security</li></ul> |
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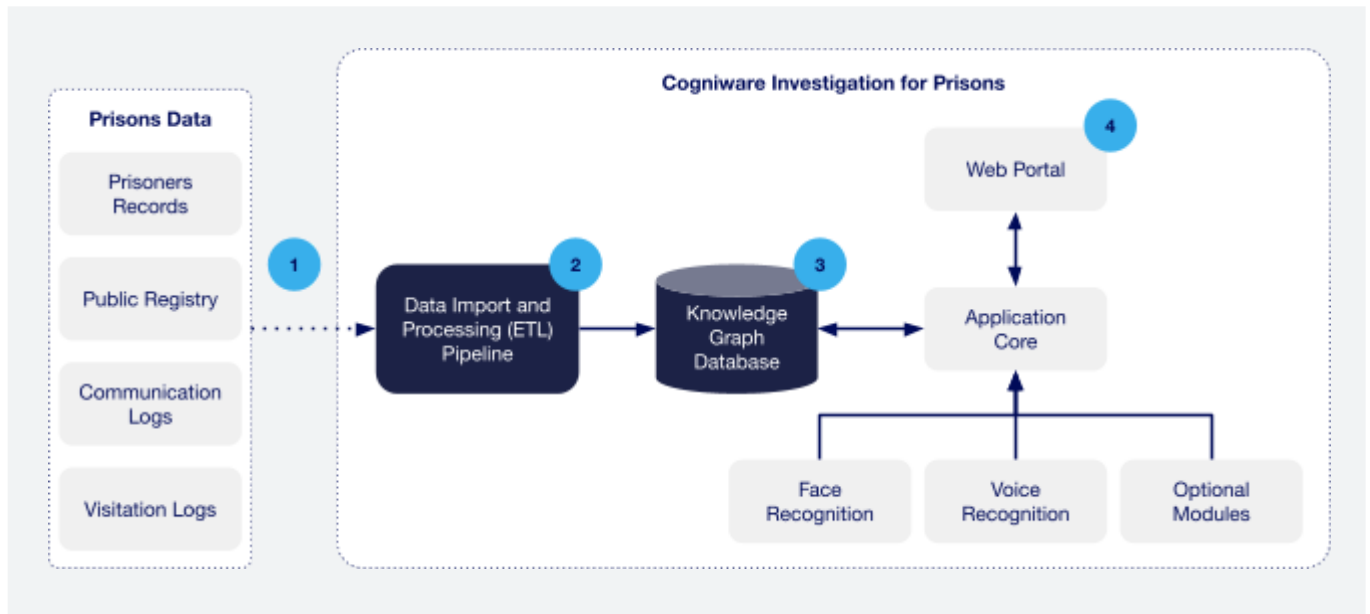
## Technical Capabilities and Architecture

- Automated and standardized data exchange compatible with specific customer data sources.
- Specialized analytical tools are instantly ready for Prisons investigation tasks.
- Built for efficient large data load and processing/transformations and optimized for query performance.



### How Cogniware Investigation for Prisons Works

1. Data can be uploaded by users manually, pushed by external systems via API, or collected automatically in bulk from local or remote locations.
2. Each data source is managed by an orchestrator component, which distributes the processing to individual specialized modules like Face recognition, Object detection, Voice recognition, etc., based on the processing pipeline configuration.
3. Data is securely stored in a knowledge graph database with restricted and controlled access.
4. Users may perform on-demand analysis instantly.



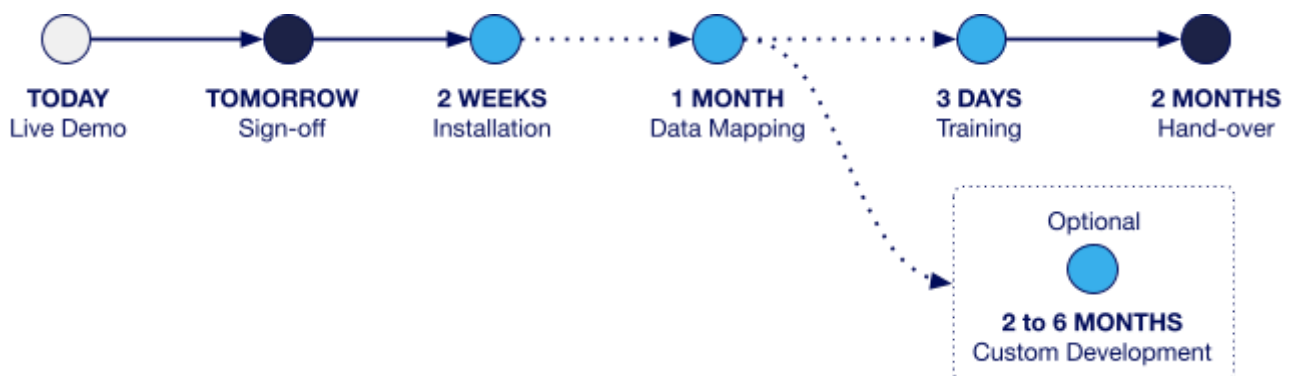
## Required Infrastructure

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Hardware requirements are subject to specific sizing of a project. Please contact our representative to present you with relevant technical details.

## Project Delivery

Typical project delivery time is ranging from 2 months (off-the-shelf installation) to 6 months (when custom requirements are delivered using our professional services). Typical timeline of our delivery is following:



## Success Story

The powerful impact of our system can be seen in its application within a Slovakian Prison and Court Guard Service. This system, specifically tailored to the unique demands of correctional facilities, was implemented to overhaul their existing operations.

Within a time frame of 4-5 months, our system was up and running. It swiftly demonstrated its prowess by reducing the time taken for investigative tasks from several days to 2-3 minutes. The system's advanced pattern tools enabled prison employees to identify connections between subjects more efficiently than ever before.

One of the significant benefits that emerged from the implementation of our system is its application in prisoner placement. The system is currently being used to strategically place new prisoners with the aim of minimizing undesirable contacts. This innovative approach to inmate placement has helped to improve overall facility safety and reduce conflict rates.

Furthermore, our Investigation for Prisons is being used proactively to identify non-standard and suspicious behavior patterns amongst prisoners and their contacts. This allows the organization to stay one step ahead in maintaining a safe and controlled environment.

The success of our system has not only led to increased operational efficiency but has also alleviated the workload of prison employees. As a result, two years into its usage, the client has expressed satisfaction and requested an expansion of the system's capabilities. Additional functionalities such as case management and biometric identification are now being integrated to further enhance the system's value.

# Money Flow Analytics Solution

## Product Sheet



Understand sequences of financial transactions,  
discover repeating patterns.

### Problem And Challenges

Tracking and understanding the flow of money within complex financial transactions can be a challenging and time-consuming task. Extracting meaningful insights and identifying patterns from bank data often requires specialized software and technical expertise.



#### Cogniware Money Flow Analytics Solution

Cogniware Money Flow Analytics Solution offers a secure on-premise software platform designed to analyze and explore financial transaction data efficiently. Our solution utilizes advanced link analysis capabilities to identify connections and patterns within the money flow.

### Business Value and Benefits <sup>1</sup>

1. **Uncover Hidden Insights:** Gain a comprehensive understanding of the sequences and patterns of financial transactions.
2. **Enhanced Efficiency:** Decrease the time required to find answers within financial data. Accelerate decision-making processes and increase operational efficiency.
3. **Improved Accuracy:** Increase the accuracy of your analysis and decision-making by minimizing human error. Our solution enables you to structure and analyze data more precisely.
4. **User-Friendly Interface:** Empower non-technical analysts to easily explore and analyze money flow data through an intuitive and user-friendly system.
5. **Automation and Resource Allocation:** Automate routine tasks and free up valuable experts to focus on critical tasks and strategic initiatives.

<sup>1</sup> Based on our delivered implementations in the EMEA region in 2021-2023.

## Use Cases For Cogniware Money Flow Analytics Solution

### Uncovering Financial Relationships

Our solution can analyse financial transaction data to identify connections and relationships between individuals, organizations, or entities. This can assist in uncovering hidden networks, collaborations, or potentially fraudulent activities.

### Detecting Money Laundering

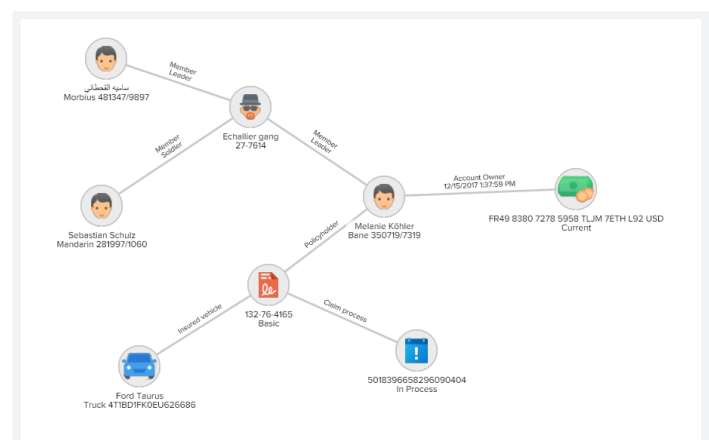
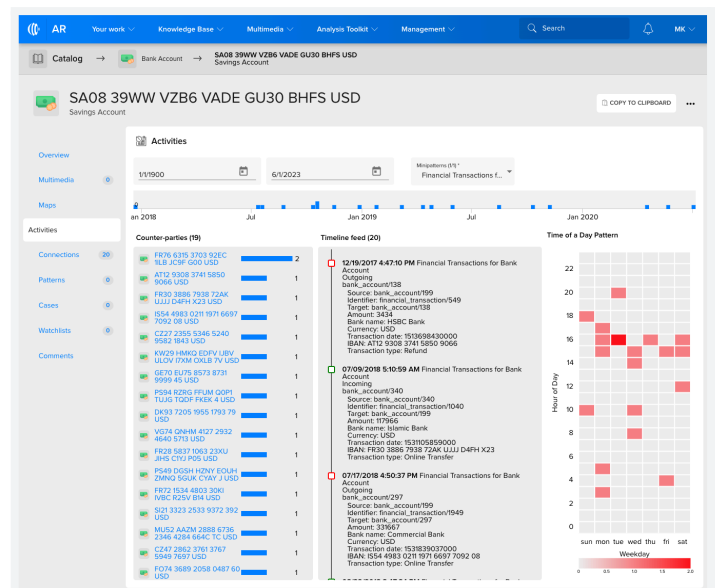
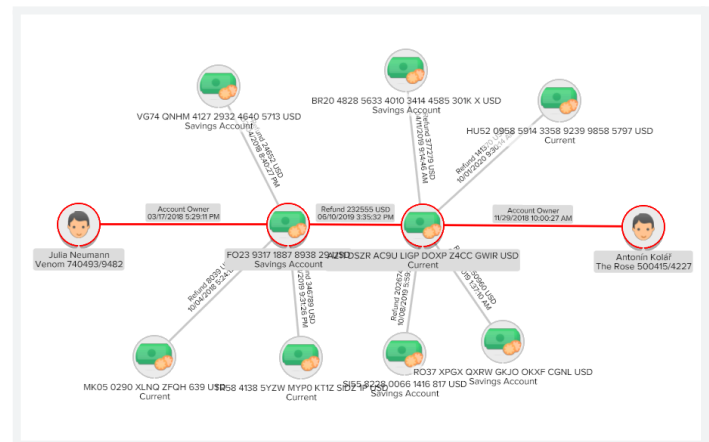
Cogniware Money Flow Analytics Solution can help identify suspicious patterns or anomalies in financial transactions that may indicate money laundering activities. By analyzing the flow of funds across different accounts and entities, the solution can assist in detecting and preventing illicit financial activities.

### Fraudulent Claim Detection:

Cogniware Money Flow Analytics Solution can analyze financial transactions and claim data for insurance companies to identify patterns indicative of fraudulent claims. By detecting abnormal payment patterns or suspicious relationships between claimants and service providers, the solution can help prevent insurance fraud.

### Investigating Financial Crimes:

Cogniware Money Flow Analytics Solution can aid in investigating financial crimes, such as embezzlement, bribery, or insider trading. By analyzing the flow of money and examining financial transactions, the solution can provide valuable insights and evidence for investigative purposes.



## Features

Cogniware Money Flow Analytics Solution includes following functionalities:

- |   |   |
|---|---|
| <ul style="list-style-type: none"><li><input checked="" type="checkbox"/> Entity focused investigation<ul style="list-style-type: none"><li><input checked="" type="checkbox"/> Bank account analysis</li><li><input checked="" type="checkbox"/> Account owner analysis</li><li><input checked="" type="checkbox"/> Branch accounts analysis</li><li><input checked="" type="checkbox"/> Accounting firms analysis</li></ul></li><li><input checked="" type="checkbox"/> Known patterns identification</li><li><input checked="" type="checkbox"/> Source of funds analysis</li><li><input checked="" type="checkbox"/> Rich visualization options using charts</li><li><input checked="" type="checkbox"/> Link analysis and data exploration</li><li><input checked="" type="checkbox"/> Temporal analysis</li><li><input checked="" type="checkbox"/> Multilanguage support</li></ul> | <ul style="list-style-type: none"><li><input checked="" type="checkbox"/> Powerful search<ul style="list-style-type: none"><li><input checked="" type="checkbox"/> Search object by identifiers</li><li><input checked="" type="checkbox"/> Search objects by advanced filter criteria</li><li><input checked="" type="checkbox"/> Search by location (branch)</li><li><input checked="" type="checkbox"/> Search by behavior pattern</li></ul></li><li><input checked="" type="checkbox"/> Collaboration and actionable outputs dissemination (exports)</li><li><input checked="" type="checkbox"/> Manual inputs and automated imports</li><li><input checked="" type="checkbox"/> Personalization and customizations</li><li><input checked="" type="checkbox"/> Data protection and advanced security</li></ul> |
|---|---|

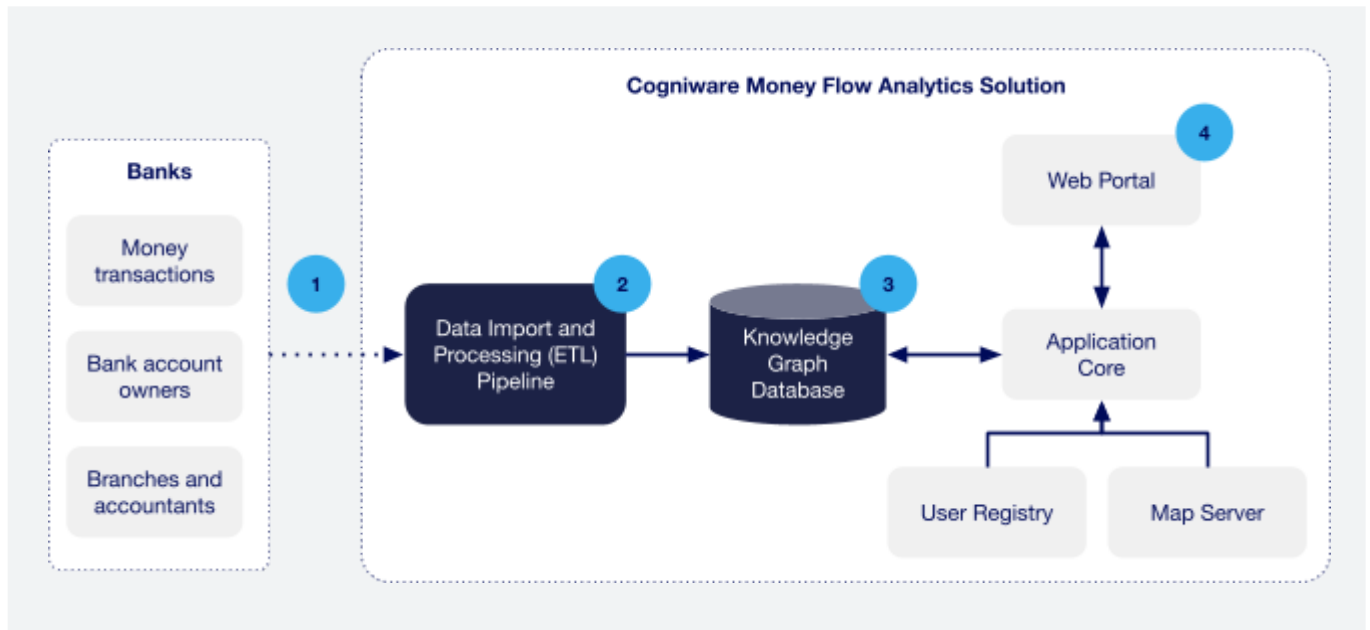
## Technical Capabilities and Architecture

- Automated data exchange ready for formats provided by banks.
- Deduplication and cleansing data during import.
- Specialized analytical tools are instantly ready for financial flow-related investigation tasks.
- Built for efficient large data load and processing/transformations and optimized for query performance.
- Extend the solution with cadastre data, car owners data, OSINT or other databases.



### How Cogniware Money Flow Analytics Solution Works

1. Money flow data is collected from banks in various formats. Technical structure of money flow data varies, but our data schema is consistent and can map to any format provided.
2. System automatically ingests the data in bulk or allows the user to import them manually. System then takes care of the rest - transformations to shape data for powerful analytics, apply geocoding, deduplication and data normalizations.
3. Data is securely stored in a knowledge graph database with restricted and controlled access.
4. Users may perform on-demand analysis instantly.



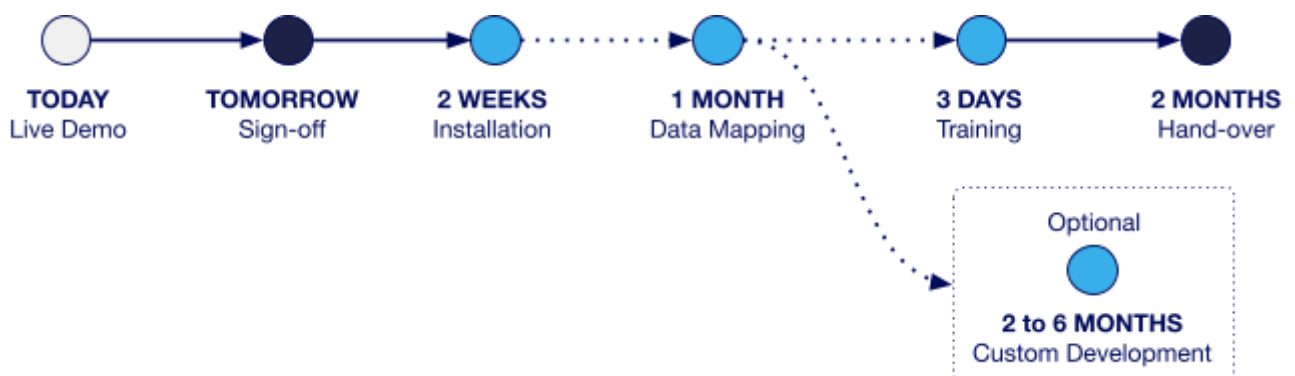
## Required Infrastructure

Cogniware Money Flow Analytics Solution is available entirely on-premise, meaning you can be assured that your data stays within your organization's boundaries.

Hardware requirements are subject to specific sizing of a project. Please contact our representative to present you with relevant technical details.

## Project Delivery

Typical project delivery time is ranging from 2 months (off-the-shelf installation) to 6 months (when custom requirements are delivered using our professional services). Typical timeline of our delivery is following:



## Success Story

### Introduction:

In the dynamic landscape of financial investigations, a central agency in the MEA region successfully leveraged the Money Flow Analytics Solution to achieve remarkable operational efficiency gains. By analyzing vast amounts of data encompassing tens of thousands of events daily, the agency significantly reduced the time spent on manual analysis. This case study showcases how the solution empowered the agency to gain valuable insights into money flow and financial transactions, resulting in heightened success rates in their operations and ultimately contributing to a safer and more secure region.

### Implementation and Customization:

The implementation project for the Money Flow Analytics Solution spanned five months, encompassing a comprehensive undertaking. Collaborating closely with the agency, our team tailored the solution to meet their specific needs, incorporating customizations such as project-specific searches and patterns. This collaborative effort ensured that the solution seamlessly integrated with the agency's workflows, maximizing its effectiveness.

### Training and Support:

Our comprehensive approach to implementation included training sessions, workshops, and ongoing support, ensuring a smooth and successful delivery of the Money Flow Analytics Solution. This holistic approach empowered agency personnel to utilize the solution to its full potential and make informed decisions.

### Enhanced Operational Efficiency and Mission-Critical Outcomes:

The Money Flow Analytics Solution has proven to be a game-changer for the agency, generating actionable insights that have significantly enhanced operational efficiency. By automating the analysis of vast amounts of data, the solution reduced the time spent on manual tasks, enabling investigators to focus their efforts on high-value activities. This increased productivity and effectiveness have translated into improved mission-critical outcomes, enabling the agency to identify actors involved in financial crimes more effectively.

### Conclusion:

Through the implementation of the Money Flow Analytics Solution, the central financial investigation agency in the MEA region has realized substantial benefits. The solution's ability to analyze large volumes of data, provide actionable insights, and streamline operations has led to heightened efficiency, improved outcomes, and a safer region overall.

# Border-crossing Analytics Solution

## Product Sheet



Have a full control over all dangers related to people coming in and going out of the country and ensure homeland security.

### Problem And Challenges

Border security enforced by immigration police and intelligence organizations plays a crucial role in protecting the country's safety. Effective border security measures help to prevent crime, maintain law and order, and protect the citizens and resources of the country. It involves monitoring and controlling the movement of people and vehicles across the border to restrict the entry of dangerous people and other criminal elements.

However, with the increasing number of people traveling across borders, it can be challenging for border control agencies to manage and process such a **high volume of passengers** while still maintaining adequate security checks. In the extreme volumes of travel data, crucial insights might be easily overlooked, thus allowing **unauthorized or dangerous people** to cross the country borders and **causing harm** to domestic security.



#### Border-check Protection

Cogniware Border-check Protection Solution is a secured on-premise software platform to analyze Advanced Passenger Information (API), Passenger Name Records (PNR) and other relevant datasets in an efficient way and allows user friendly visual investigation and automated control over movement of people representing risk for a country's safety. It ensures shorter resolution times, enhanced accuracy, early warnings, unmatched customizability and high scalability.

- API/PNR
- Civil registry
- SIM subscriber information from mobile network operator
- Border checkpoint data
- Visa requests
- Watchlists
- Vehicle registry
- Land registry

## Business Value and Benefits <sup>1</sup>

1. **Understand hidden insights** in actual and historical data and find answers to the investigation and risk-assessment questions and understand non-trivial patterns by centralizing and unlocking all relevant data.
2. **Decrease time** to find answers about people arriving in the country **by up to 50%**, allowing for faster decision-making and increased efficiency.
3. **Eliminate potential risk** to the country's safety by identifying dangerous and problematic incoming travelers in a timely manner when quick response is crucial.
4. **Enable non-tech analysts** (usually **90%** of all staff) to analyze communication data via an easy to use system.
5. **Allocate investigators and data analysts** on important tasks rather than performing routine tasks thanks to automation.

## Use Cases For Cogniware Border-crossing Analytics Solution

### Border Protection Before Arrival

Evaluation of the risk of people entering the country, before coming to the border crossing based on API/PNR or other relevant data sources. Automatic alerting, vetting and manual analysis are helping to understand the situation and take actions.

### Border Protection In Time Of Arrival

Combining travel history and passport data including evaluation of the passport photo and photo taken at the immigration desk. Identify problematic individuals with automatic evaluation of facial recognition, risk-evaluation criteria and watchlists to identify problematic individuals. Use these insights to ask targeted questions during the inspection.

### Investigate Individuals Of Interest

Thorough and complex analysis and background check of all known information about a **visa requestor's / citizen's of interest** travel history, his companions, time patterns or other arrangements such as hotel or phone information. Target based analytical tasks are solved easier and faster thanks to visualization, reporting or pattern recognition. Proactive control of risks based on behavior without specifying an identity (visits to risky countries).

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<sup>1</sup> Based on our delivered implementations in the MEA region in 2020.

## Features

Cogniware Border-crossing Analytics Solution includes following functionalities:

- |   |  |
|---|--|
| <input checked="" type="checkbox"/> Dashboard for each target individual                                  | <input checked="" type="checkbox"/> Search objects by advanced filter criteria                   |
| <input checked="" type="checkbox"/> Rich visualization options using charts                               | <input checked="" type="checkbox"/> Search by location   |
| <input checked="" type="checkbox"/> Link analysis and data exploration                                    | <input checked="" type="checkbox"/> Search by behavior pattern                                   |
| <input checked="" type="checkbox"/> Temporal analysis   | <input checked="" type="checkbox"/> Collaboration and actionable outputs dissemination (exports) |
| <input checked="" type="checkbox"/> Connector to internal and external sources such as API/PNR and others | <input checked="" type="checkbox"/> Manual inputs and automated imports                          |
| <input checked="" type="checkbox"/> Multilanguage support   | <input checked="" type="checkbox"/> Personalization and customizations                           |
| <input checked="" type="checkbox"/> Powerful search   | <input checked="" type="checkbox"/> Data protection and advanced security                        |
| <input checked="" type="checkbox"/> Search object by identifiers  |  |

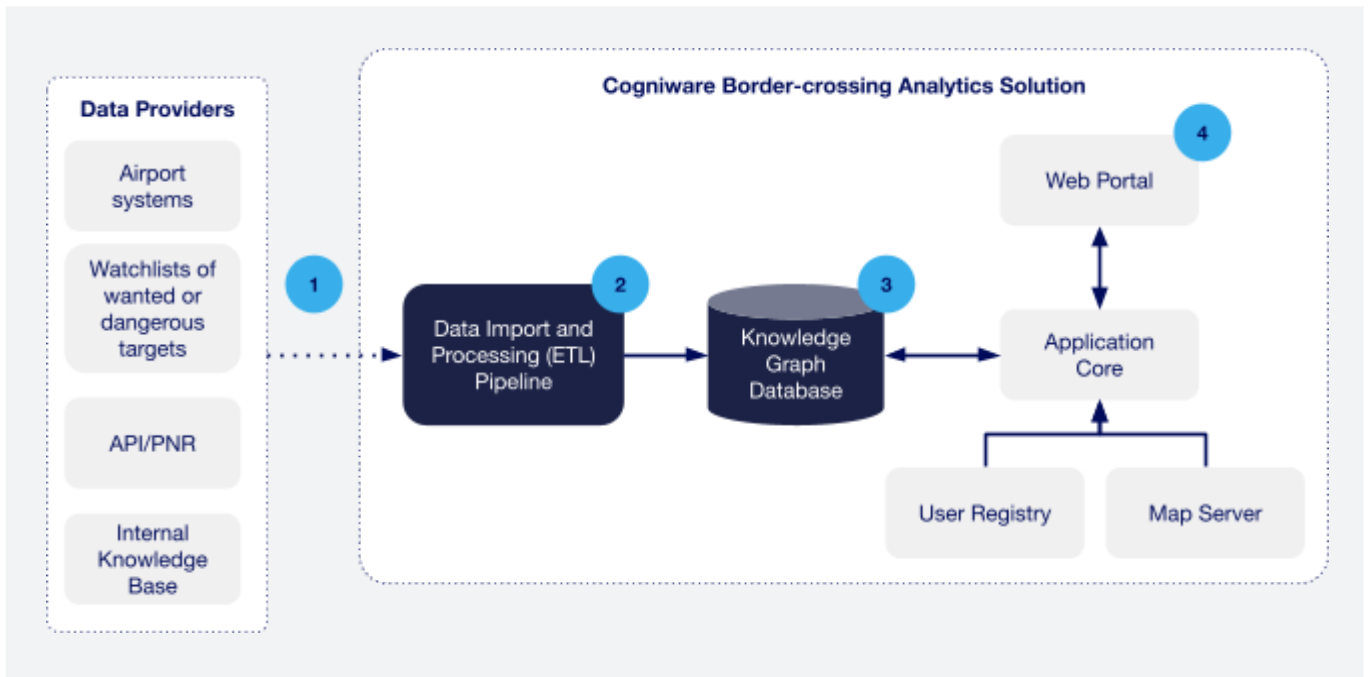
## Technical Capabilities and Architecture

- Automated and standardized data exchange compatible with API/PNR formats provided by airports systems.
- Deduplication and cleansing data during import.
- Specialized analytical tools are instantly ready for travel-related investigation tasks.
- Built for efficient large data load and processing/transformations and optimized for query performance.
- Extend the solution with OSINT, forensics, multimedia analytics or other databases.



### How Cogniware Border-crossing Analytics Solution Works

1. API/PNR and other relevant data is collected from airport systems, government registries and other knowledge sources in standardized format. Source data structure is mapped to our data schema to ensure common understanding.
2. System automatically ingests them in bulk and takes care of the rest - transformations to shape data for powerful analytics, deduplication and data normalizations.
3. Data is securely stored in a knowledge graph database with restricted and controlled access.
4. Users may perform on-demand analysis instantly.



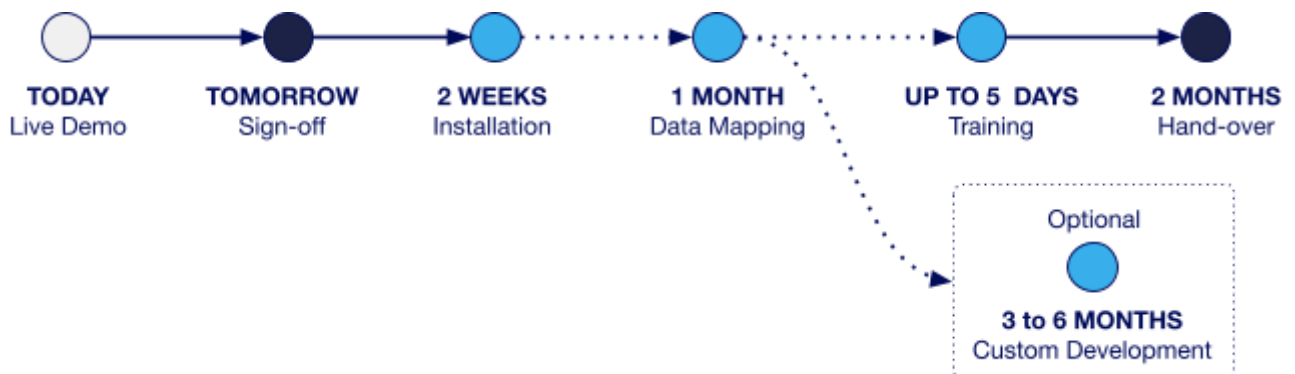
### Required Infrastructure

Cogniware Border-crossing Analytics Solution is available entirely on-premise, meaning you can be assured that your data is securely pulled from remote sources and stays within your organization's boundaries.

Hardware requirements are subject to specific sizing of a project. Please contact our representative to present you with relevant technical details.

### Project Delivery

Typical project delivery time is ranging from 3 months (off-the-shelf installation) to 6 months (when custom requirements are delivered using our professional services). Typical timeline of our delivery is following:



## Success Story

Through our Border-crossing Analytics Solution, the intelligence agency in the MEA region was able to achieve a significant increase in speed and accuracy. Our solution combined multiple data sources to form a comprehensive knowledge base containing after initial load more than 10 TB of structured data. Overall speed increase with higher accuracy led to 50% reduction in time spent on manual analysis.

The implementation project for our border check analytics solution was a comprehensive undertaking that took 4 months to complete.

Furthermore, our solution provided the agency with insights into the travel movement patterns of their targets, this means that the agency was able to identify threats more effectively and take appropriate actions, ultimately leading to a safer and more secure region.

The project began with an assessment of the agency's needs, including an evaluation of their existing infrastructure and data sources. From there, our team worked closely with the agency to design customizations that helped to meet their specific requirements, including project-specific automated patterns combined with alerting functionality for proactive identification of potential issues .

We provided extensive training and support to agency staff to ensure that they are fully equipped to use the solution effectively. Our comprehensive approach to implementation ensured a smooth and successful delivery of our border check analytics solution.

Overall, our border check analytics solution has provided the Customer with actionable insights that have led to increased operational efficiency and improved mission-critical outcomes.

# Argos Enterprise Platform

Create Customized Solutions Effectively

Highly modular, scalable and customizable big data analytics platform built for investigation and exploration use cases.



## Argos Experience

In the complex and dynamic world of **law enforcement and government investigations**, there is no one-size-fits-all solution. The individual challenges faced by these entities are as diverse as the cases they handle, each **demanding a unique approach** and a solution that **perfectly aligns** with their specific needs. That's where the Argos Platform for Enterprise solution steps in.

At Cogniware, we understand the unique demands of **security forces and investigation entities**. The **specific nature of the work** with the need for precision and speed make off-the-shelf solutions impractical - either the tools on the market are not covering all needs at once or they lack customization options. That's why we offer tailor-made enterprise solutions **designed exclusively** for target organizations without the need of reinventing the wheel.



### Argos Enterprise Platform

With Argos Enterprise Platform, we don't just deliver software; we **co-create comprehensive systems** that are purposefully developed to meet your **exact requirements**. Whether you're dealing with complex investigations, case management, data analysis, or information management, our team of experts is ready to collaborate with you. We bring to the table a wealth of experience, a deep understanding of your field, and a commitment to excellence. The **"Enterprise"** in the platform means that we cover all crucial aspects of large organization needs such as robust security, scalability, data protection and responsive support.

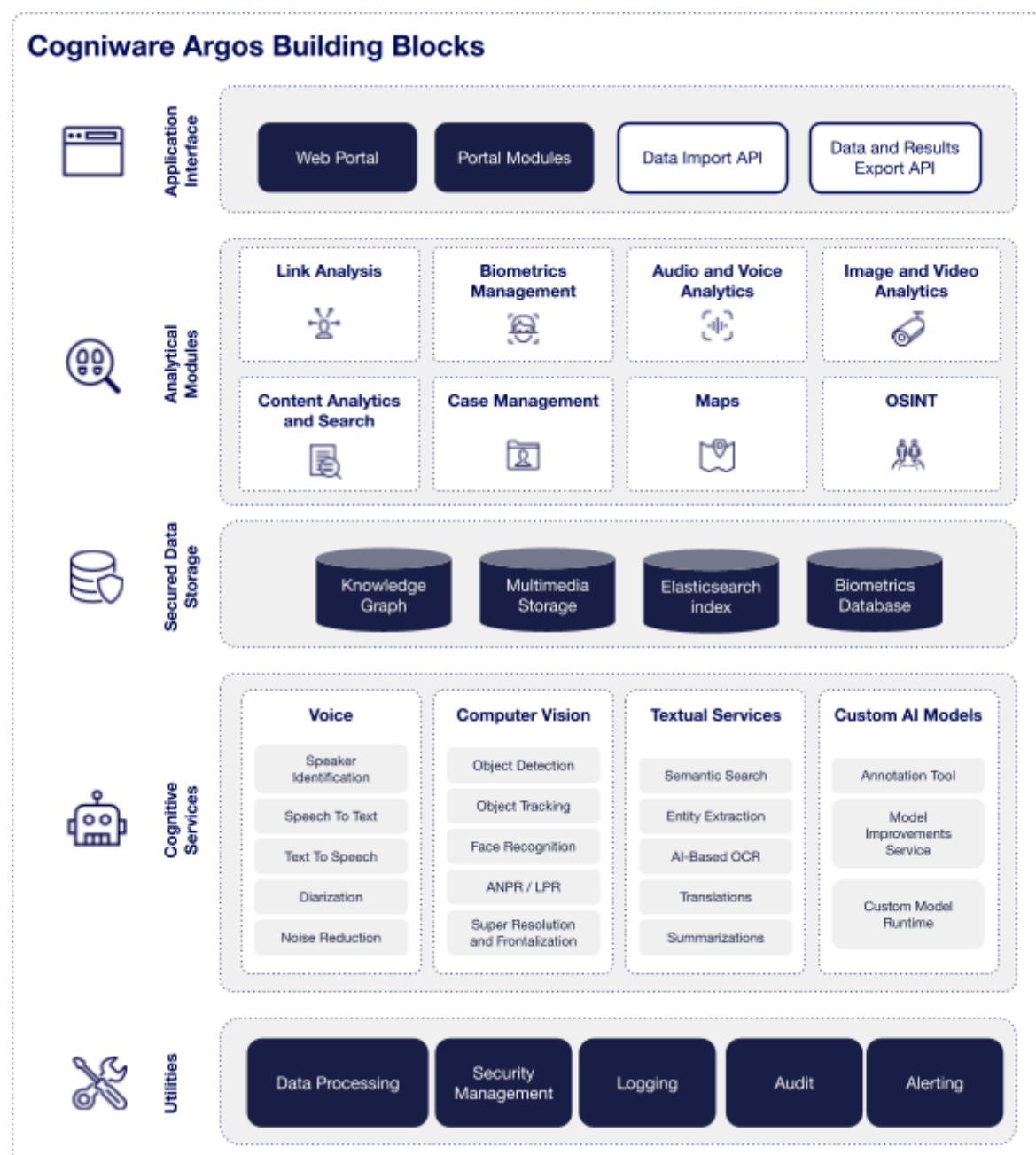
## Business Value and Benefits

1. **Unified Intelligence Platform:** Argos seamlessly consolidates diverse data sources into a unified platform, ensuring swift and accurate intelligence retrieval.
2. **Tailor-Made Solutions, Flawless Integration:** Our expertise lies in crafting tailor-made solutions that seamlessly integrate with your existing systems via APIs.
3. **In-Depth Business Analysis:** Our dedicated team of business analysts delves into your operations to ensure our solutions align with your needs and future growth.
4. **Robust Existing Functionality:** Experience powerful tools for investigation and data analytics that swiftly reveal actionable insights and significantly reducing investigation timeframes.

5. **Scalability for National Security:** From local law enforcement to national security agencies, Argos scales effortlessly to accommodate vast data sets without sacrificing speed or precision.
6. **Adjustable Data Models:** Efficiently access predefined patterns and trends tailored for security and investigative scenarios, eliminating the need for time-consuming data modelling.
7. **Real-world Data Inclusion:** Argos offers seamless integration with common data tools, allowing agencies to swiftly incorporate real-world data into their intelligence pool.
8. **Comprehensive Support and New Features:** We're partners committed to your success, guiding your project from conception to implementation with continuous improvements.

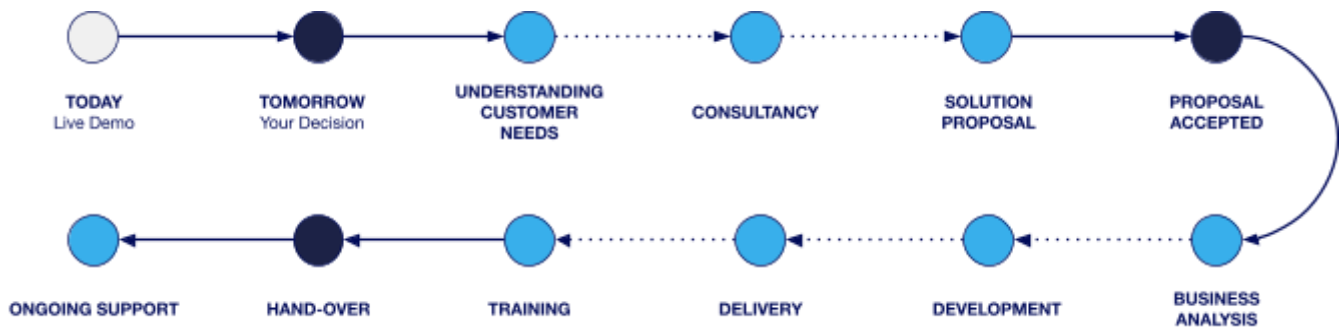
## Platform Components

Argos Enterprise Platform enables you to create a unique front-end experience combined with custom application logic built on top of ready-made blocks (components, libraries and curated technologies) without the need of researching the approach - Cogniware did that for you already.



## Argos Enterprise Timeline

Our journey begins with a deep understanding of your specific requirements, followed by expert guidance, solution proposals, and thorough analysis. From development to deployment, we ensure a seamless integration process. Through comprehensive training and continuous support, we develop a longstanding partnership, dedicated to advancing your mission every step of the way.



- **Understanding Customer Needs:** We start by immersing ourselves in your world, and comprehending your unique requirements, challenges, and aspirations.
- **Knowledge and Consultancy:** Our team of experts applies their knowledge and experience to provide insightful consultancy, ensuring that your solution aligns perfectly with your goals.
- **Solution Proposal and Acceptance:** We craft a tailor-made solution proposal backed by previous consultancy, ensuring it's not just effective but also strategically tailored.
- **Business Analysis and Development:** Whether it's an online or on-site project, our skilled team takes the reins, translating concepts into tangible solutions.
- **Delivery:** Seamless delivery is key. We ensure that our solutions seamlessly integrate with your existing systems, minimizing disruption.
- **Customer Training:** Empowering you is essential. We provide comprehensive training, ensuring your team is adept at maximizing the solution's potential.
- **Ongoing Support:** Our commitment doesn't end with delivery; it's an enduring partnership. We stand by your side with continuous support, adapting to your evolving needs.



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“Innovating digital investigation”