Knowledge Discovery Solutions for Defence Intelligence Organisations

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Associate Director, Govt Industry Solutions
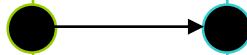*IBM India Pvt Ltd*

Intelligence agencies are moving along a spectrum of improvement
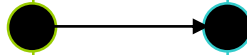
Traditional Approach – Siloed Apps

Emerging Approach – Enterprise Apps

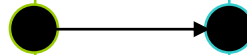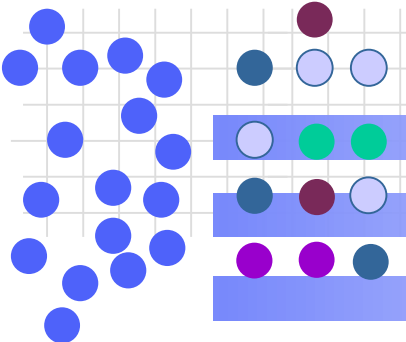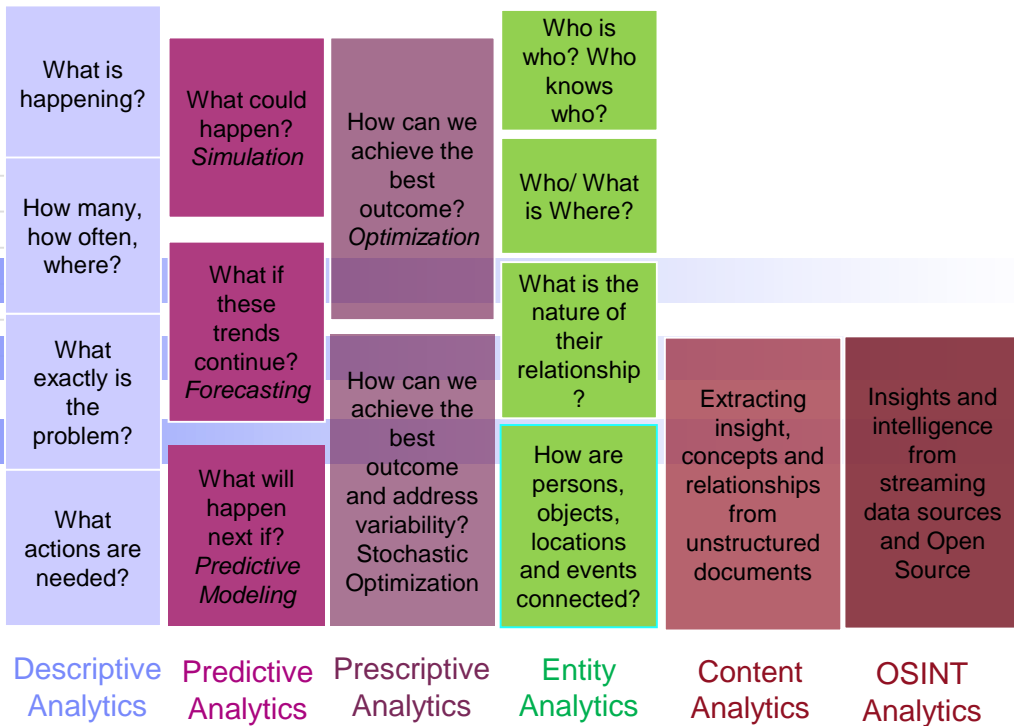| Traditional	Emerging
Many disconnected and conflicting data sources	Integrated data including sensors, video and voice
Each department operates as an independent "silo"	Coordinated actions across departments and stakeholders
Long range predictions for trends and directions	More detailed and actionable near-term predictions

Analytics for Defence Intelligence

Structured data and unstructured content - made consumable and accessible appropriately

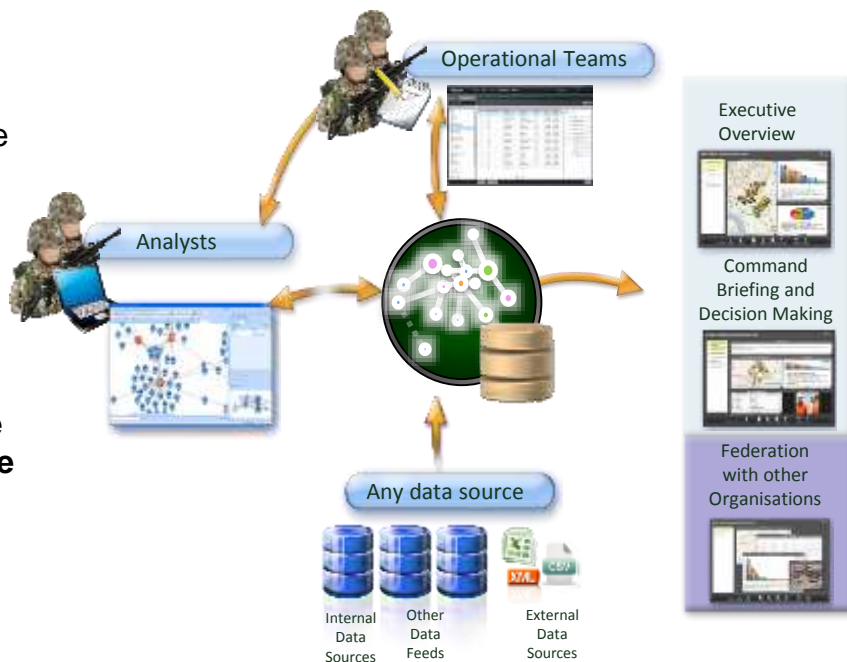| Descriptive Analytics	Predictive Analytics	Prescriptive Analytics	Entity Analytics	Content Analytics	OSINT Analytics
What is happening?	What could happen? *Simulation*	How can we achieve the best outcome? *Optimization*	Who is who? Who knows who?	Extracting insight, concepts and relationships from unstructured documents	Insights and intelligence from streaming data sources and Open Source
How many, how often, where?	What if these trends continue? *Forecasting*		Who/ What is Where?		
What exactly is the problem?		How can we achieve the best outcome and address variability? Stochastic Optimization	What is the nature of their relationship?		
What actions are needed?	What will happen next if? *Predictive Modeling*		How are persons, objects, locations and events connected?		

IBM i2 Enterprise Insight Analysis for Defence Intelligence

Supports the entire Intelligence Lifecycle, from Data Ingestion to Search, Analysis & Reporting

❑ **Improve current intelligence picture** by processing all available data, from structured and unstructured sources

❑ **Exploit shared intelligence** and support collaborative working

❑ **Reduce operational intelligence gaps for rotating units to ensure mission continuity** through a common repository

Operational Teams

Analysts

Executive Overview

Command Briefing and Decision Making

Federation with other Organisations

Any data source

Internal Data Sources

Other Data Feeds

External Data Sources

IBM i2 EIA Platform - Key Capabilities

IBM

Create, Update Delete

Collaborate

Collate, Integrate Summarise

PRODUCE AND SHARE

INGEST AND MANAGE

4

1

Manage Govern

VISUALIZE AND ANALYZE

SEARCH AND EXPLORE

3

2

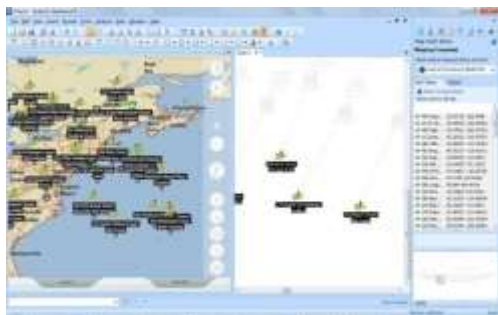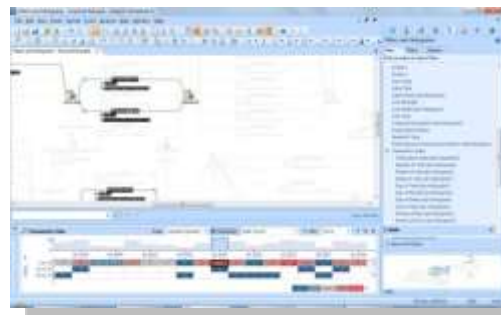*Visualise*   *Analyse*

Search & Query

i2 EIA - Multi-dimensional Visualisations
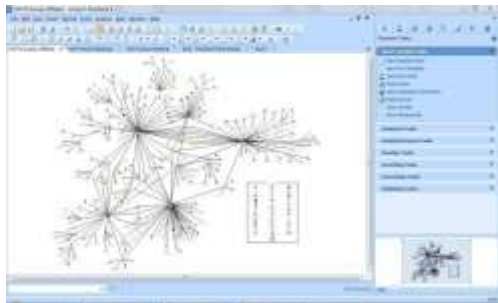
Link & Social Network Analysis

Transaction timelines

Geo-location
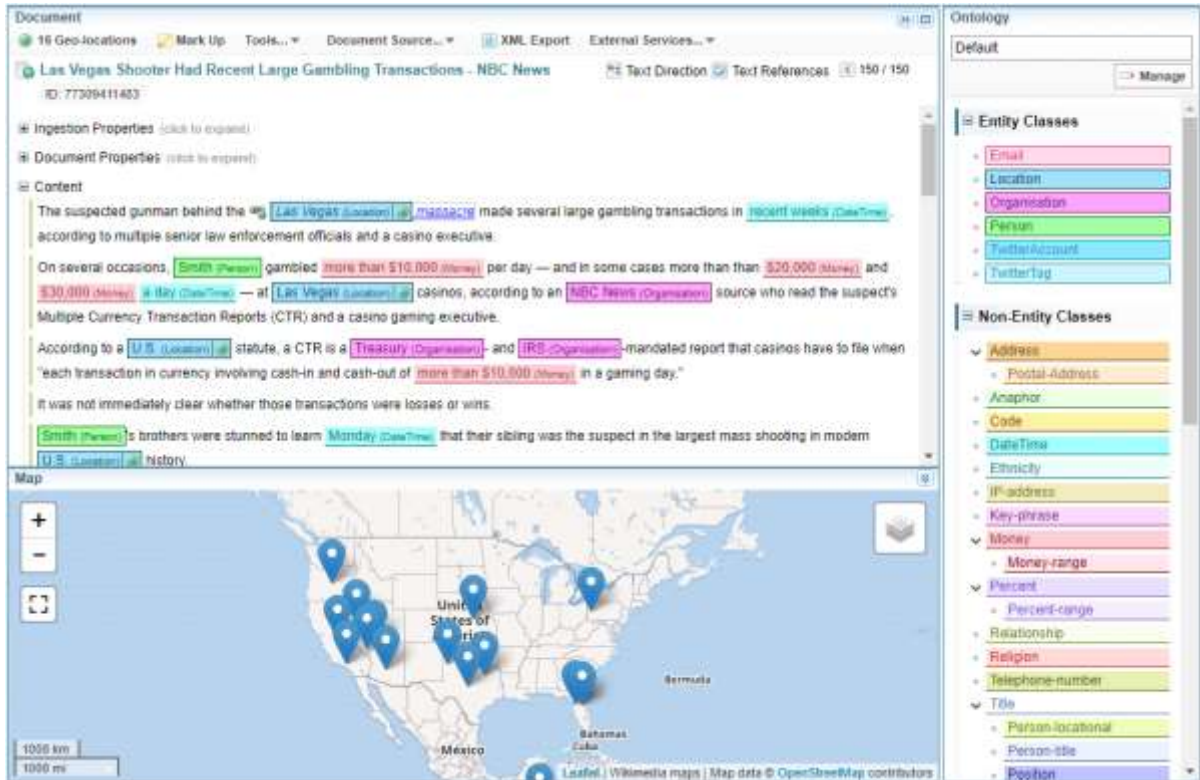
Statistical / Filtering, Histograms & Heat maps

Sintelix ANB Plugin for IBM i2 Analyst Notebook

Sintelix adds the ability to ingest and analyze unstructured data from a range of sources

Sintelix extracts entities, relationships and properties from any text. The built-in configuration identifies people, organisations, geo-tagged locations and 24 other data types
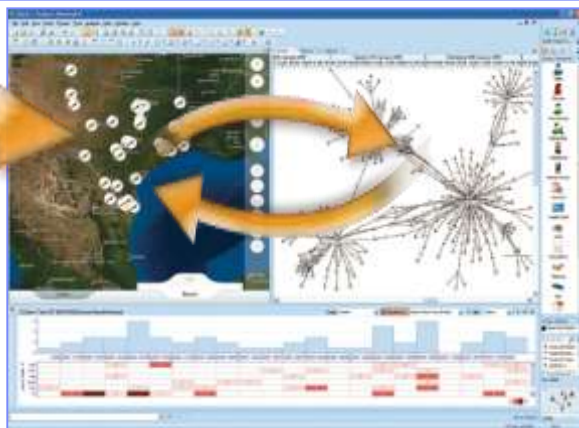
IBM i2 Analyst's Notebook Connector for Esri

IBM

Combining Esri ArcGIS geospatial tools with the intelligence analysis tools of IBM i2 Analyst's Notebook

- IBM i2 Analyst's Notebook Connector for Esri is a plug-in to IBM i2 Analyst's Notebook
- It integrates available supported Esri ArcGIS Server services and capabilities directly in to the IBM i2 Analyst's Notebook environment
- It provides a two-way integration that allows i2 Analyst's Notebook chart data to be mapped as well as Esri stored data to be combined with chart data for further analysis


Esri ArcGIS Server

IBM i2 Analyst's Notebook Connector for Esri

- IBM i2 Analyst's Notebook Connector for Esri integrates Esri's ArcGIS Server geospatial functionalities to the visualization capabilities of IBM i2 Analyst's Notebook.

- Enables users to perform association, temporal and geospatial analysis in a single work environment and build a detailed and robust analysis picture more quickly.
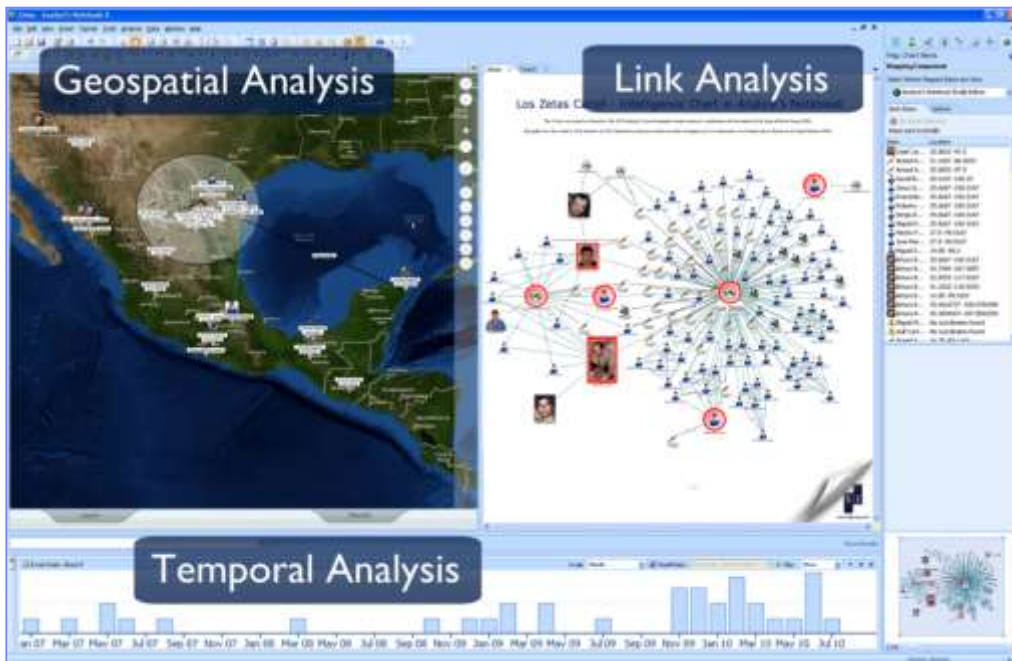
WHO/WHAT

WHERE

WHEN

IBM i2 Analyst's Notebook Connector for Esri

Reduce dependencies on specialist geographic information system (GIS) analysis teams for faster response times

- Enable intelligence analysts with authorized access to perform fundamental geospatial analysis without having to depend on specialist GIS analysis teams.
- Share workload and help specialist GIS analysis teams concentrate on in-depth geospatial analysis tasks
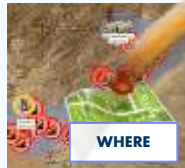
Specialist GIS Analysis Teams

WHERE

Specialized GIS Analysis

WHERE

Intel. Analysis Related GIS

Intelligence Analysis Teams

WHO/WHAT

Link Analysis

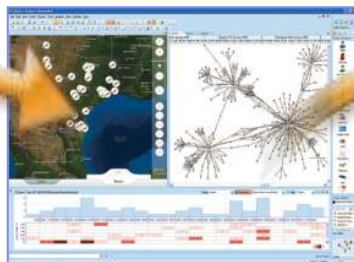**WHEN**

Temporal Analysis

IBM i2 Analyst's Notebook Connector for Esri

Optimize investments made in intelligence and geospatial analysis capabilities with rich GIS capabilities
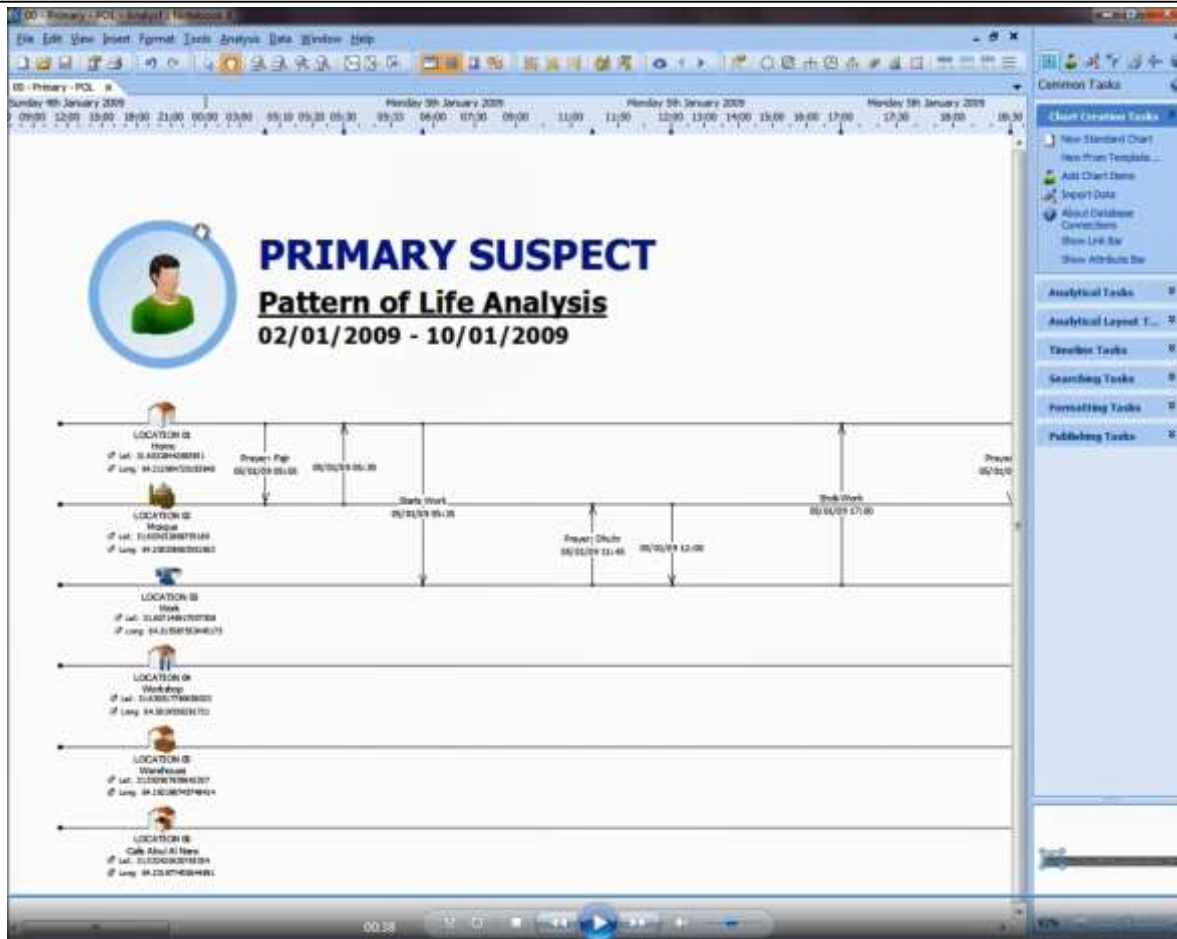
- Integrate geospatial analysis results and visualizations for more detailed intelligence products.
- Add a crucial layer of actionable information to intelligence products with geospatial intelligence.
- Add the ability to copy or save map views and insert visualizations into i2 charts, briefings and reports.
- Share geospatial analysis findings among users by saving work to mapping schemes and associating and distributing this information alongside IBM i2 charts
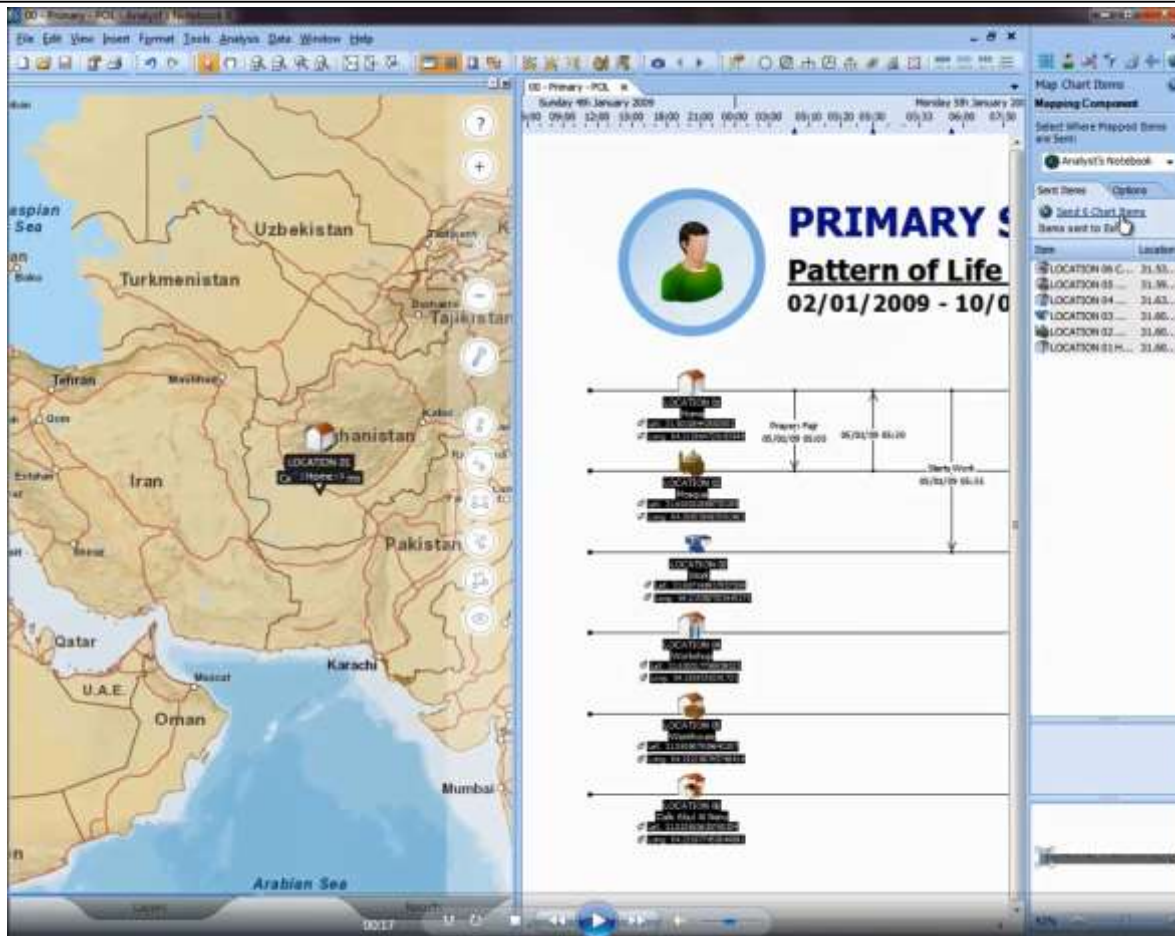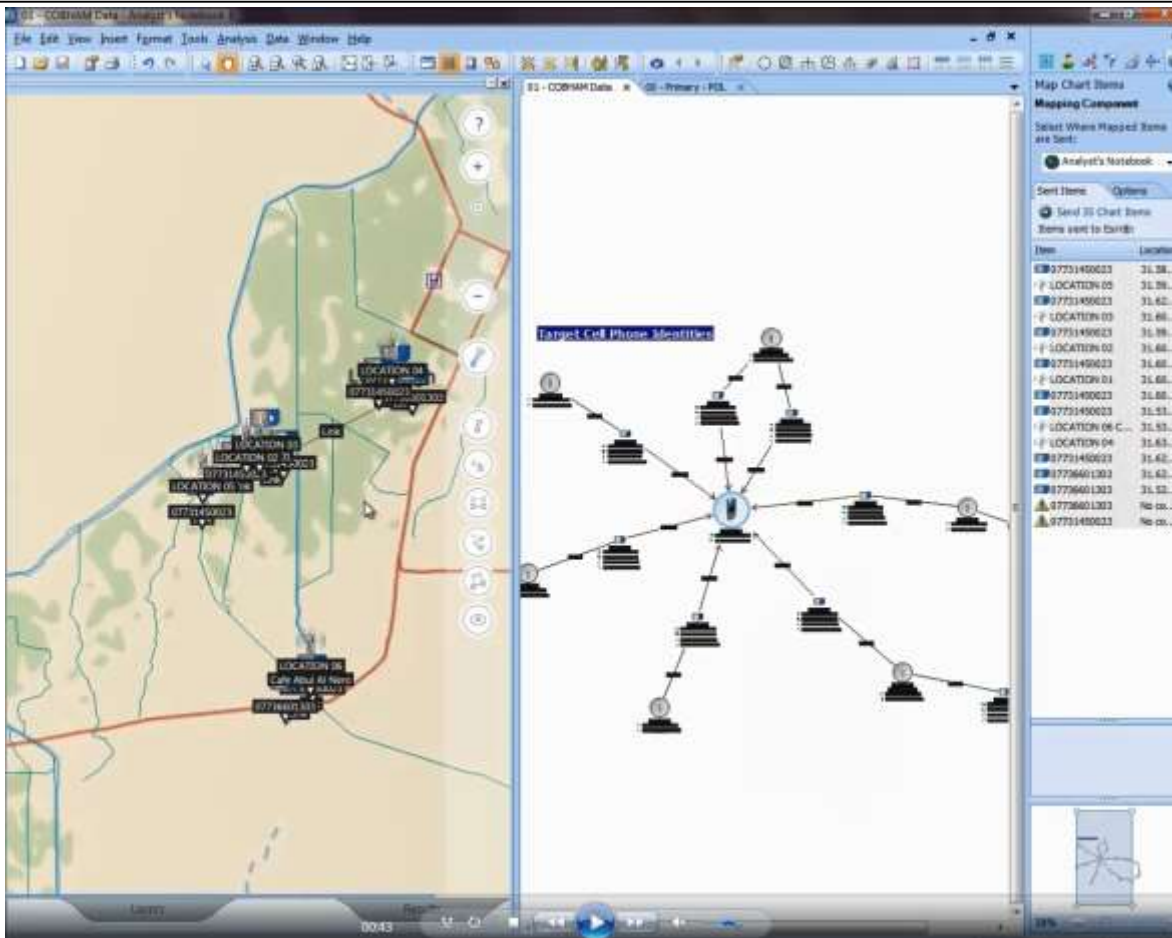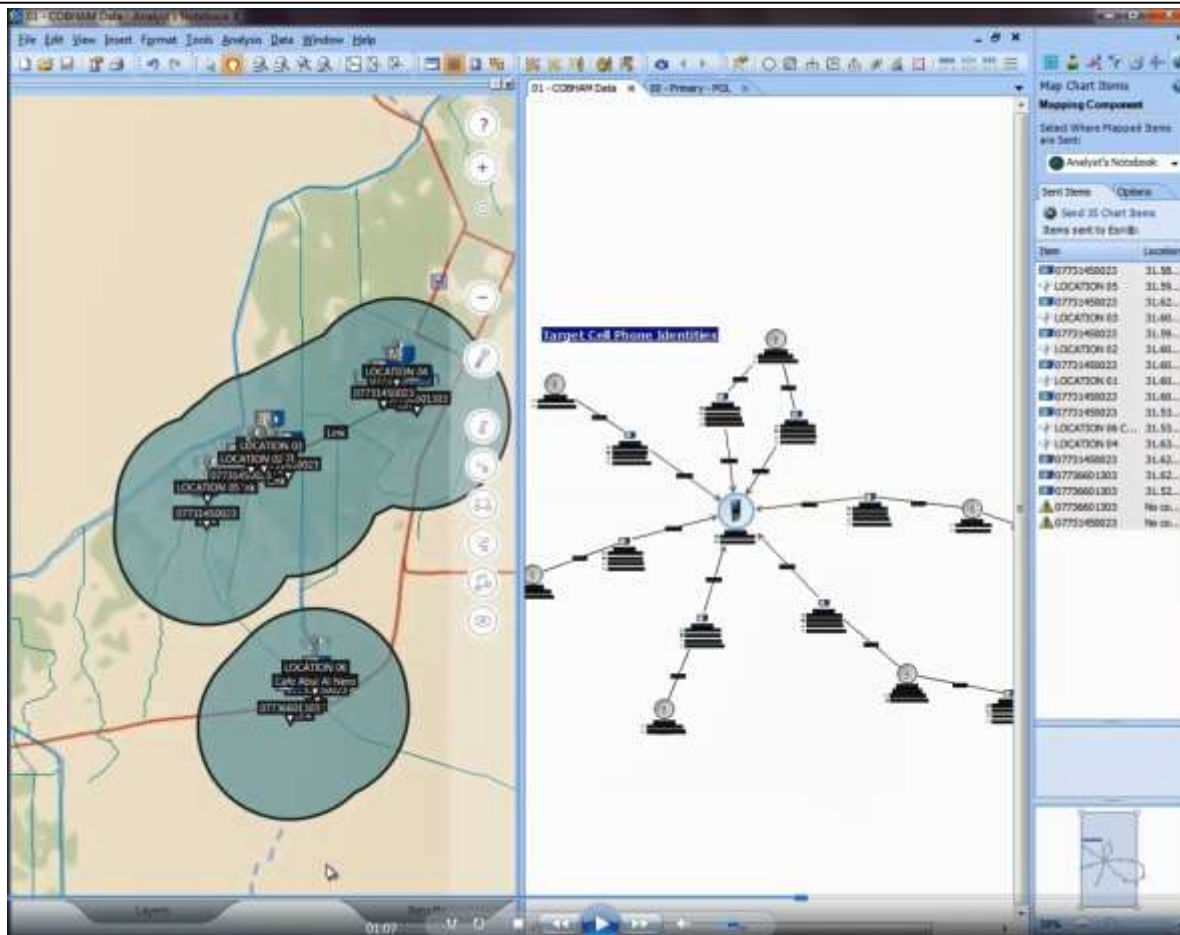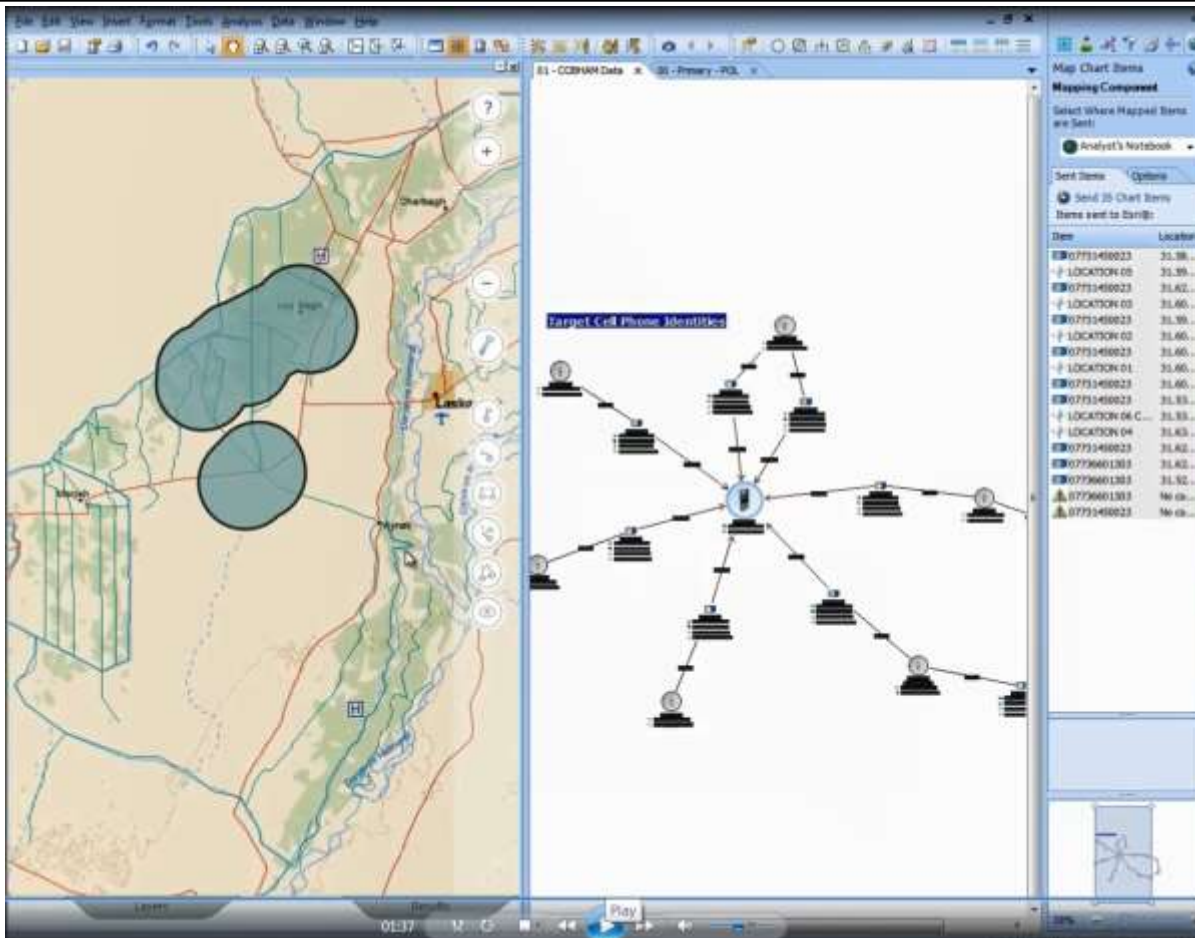
Esri ArcGIS Resources

IBM i2 ANB – Pattern of Life Analysis

IBM i2 ANB – Pattern of Life Analysis

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IBM i2 ANB – Pattern of Life Analysis

IBM i2 ANB – Pattern of Life Analysis

IBM i2 ANB – Pattern of Life Analysis

Creating Actionable Intelligence

IBM

Intelligence Lifecycle

Owned / Open

Text / Rich

Structured / Unstructured

Integrate ever-evolving data and content from many different sources

- Data Fusion
- Completeness
- Accuracy

Analyst

Intelligence generation through iterative analysis and process.

- Adding Context
- Analysis
- Enrichment
- Leveraging Analytical Capability

Information

Collaboration

Actionable Intelligence

Dissemination

Informed Decision Making & Intelligent Led Operations

Transform data into useful, in-context information

- Searching
- Adding relevance
- Modelling
- Linking

Operational User

The right information, to the right people, at the right time

- Assumptions
- Cataloguing
- Verifiable, traceable
- Provenance

Operations Lifecycle

VALUE
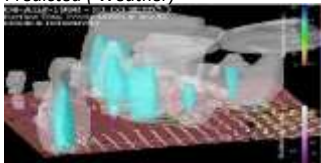
Intelligent Operations Centre for Ops Rooms

The Situation

Predicted (Weather)
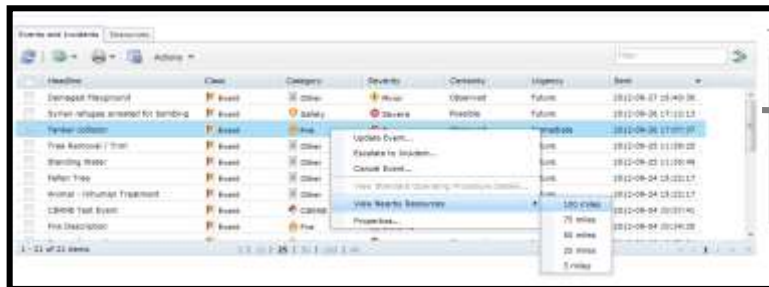

Instantaneous (explosion)

1. Information is captured and displayed by graphical and textual means to give an operational picture via the IOC

2. Integrated rules, KPIs and analytic engines can correlate events to ensure the most appropriate priorities are been managed

3. As events are captured by the IOC, automatic responses can be triggered

4. SOPs manage the situation via well trained and defined actions

Thank You