Executive Summary

October 2015

Fifth 5dimension Ltd.

PREDICT THE UNPREDICTABLE

Fifth Dimension Ltd.

WHO WE ARE

Fifth Dimension is a pioneer and leading provider of artificial intelligence Deep Learning-based Intelligence solutions. Fifth Dimension R&D group was acknowledged by the artificial intelligence community as one of the top 5 leading deep learning research group worldwide. Fifth Dimension Research Group is comprised of worldwide renowned experts in Deep Learning, with more than twenty academic research papers in leading artificial intelligence journals and conferences.

Fifth Dimension Management has successful proven track-record in:

- Leading 100+ projects from initiation phase to complete roll out and commercialization of new technologies
- Deploying Complex projects at the Customers' environments

Fifth Dimension's founding team and executive management are comprised of highly talented entrepreneurs, worldwide experts and acknowledged executives who have held very senior positions in their prior respective organizations – senior officials from Intelligence & Defense organizations and top level executives from global leading Security/Defense vendors. Our artificial intelligence research group is comprised of world renowned experts and multi-disciplinary PhDs. Fifth Dimension is headquartered in Tel Aviv, Israel.

WHY WE ARE HERE

14,098 Dead 10,666 Injured
Worldwide terror victims only in the first half of 2015

Over 40 countries under terror attack

17 countries with over 100 victims

18 countries with over 50 dead

Iraq has the most terror victims, with almost 5,000 dead and over 3,200 injured

Nigeria is next with over 4,100 dead and over 1,600 injured

Over 26,000 terror attack Since 9/11

The past month: 19/6 – 17/7: 263 terror attacks with 2612 dead and 3165 injured

On January 10th was the deadliest single terror attack, as the Islamic extremist Boko Haram massacred as many as 2,000 people in Baga. most victims are children, women and elderly people

Country	Dead	Injured			
Iraq	4899	3234	Thailand	22	47
Nigeria	4169	1605	Chad	20	0
Syria	1575	985	France	18	19
Afghanistan	710	1077	Lebanon	14	50
Yemen	481	867	Italy	12	0
Pakistan	417	471	CAR	11	0
Libya	324	247	Macedonia	8	37
Egypt	221	350	Bangladesh	5	7
Somalia	206	210	Indonesia	5	0
Kenya	187	93	USA	4	3
Cameroon	167	572	Israel	3	20
DRC	129	13	Dagestan	2	2
Niger	122	124	Denmark	2	5
Tunisia	83	106	Iran	2	0
Saudi Arabia	64	114	Uganda	2	0
Philippines	54	71	Algeria	1	0
Mali	50	45	Bosnia	1	2
Sudan	50	11	Ireland	1	0
India	28	38	Tanzania	1	5

Female policewoman killed in second Paris gun attack

Car bomb explodes on Thai resort island of Koh Samui

3 soldiers attacked outside Jewish center in Nice, France

South Carolina church shooting: police hunt gunman after 'hate crime' attack

At least 70 Egyptian soldiers killed in Sinai terror attacks

27 killed 222 injured in Kuwait mosque attack claimed by IS militant group

MASSIVE BLACKOUT BRINGS TURKEY TO A STANDSTILL: IRAN CYBER ATTACK?

MAJOR CHALLENGES

The success of national defense and protection of critical assets (physical or virtual) depends to a large extent on the relevant organization's ability to access, on a timely manner, extract and analyze all the available information. The reality is that all organizations face extreme difficulty:

- Overwhelming data challenges: multiple sources, multiple formats (e.g. voice, video, text), multiple types (structured, unstructured)
- Huge challenges in analyzing the massive information and generating meaningful actionable intelligence.

90% of the data collected is not structured

OPERATIONAL CHALLENGES

Asymmetric warfare

Global terror footprint

Cyber warfare

Growing use of advanced technologies

Civil unrest

Information	Intelligence
Raw, unfiltered feed	Processed, sorted information
Unevaluated when delivered	Evaluated and interpreted
Aggregated from virtually every source	Aggregated from reliable sources and cross correlated for accuracy
May be true, false, misleading, incomplete, relevant or irrelevant	Accurate, timely, complete (as possible), assessed for relevancy
Unstructured	Structured
Not actionable	Actionable

The intelligence challenges have shifted from the **COLLECTION** era to the **FUSION & ANALYSIS** era

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OUR ESSENCE

We reveal the hidden value from massive amount of data, from any collection source, any type, any format, and apply proprietary artificial intelligence deep learning to enable automatic, real-time predictive intelligence.

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OUR TECHNOLOGY PILLARS

MASS DATA FUSION
SUPER COMPUTING
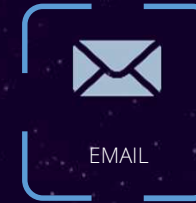

ARTIFICIAL INTELLIGENCE
DEEP LEARNING

DATA ANALYSIS FROM ALL SOURCES TO ONE BRAIN

1. We integrate data from **any collection source, any type, any format, structured and unstructured.**
2. We apply advanced mathematical Artificial Intelligence deep learning algorithms
3. We process smart "brain" in order to perform link analysis and anomaly detection

Our mass data technology:
- Saves and processes **PETABYTES** of data
- Uses commodity hardware to produce high scale computational performance
- Provides a comprehensive and accurate intelligence picture

SOCIAL NETWORKS

HUMINT

CDR

TEXT

INTERNET ANALYTICS

VIDEO ANALYSIS

EMAIL

MESSAGES

AUDIO

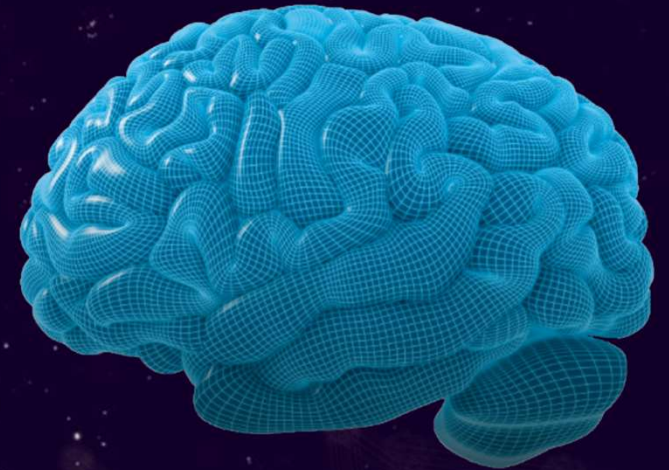PUBLIC RECORDS

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DEEP LEARNING: THE CORE OF THE TECHNOLOGY

Fifth Dimension breakthrough technology is based on Deep Learning, an emerging area of artificial intelligence which enables training on massive datasets. Deep learning is about learning multiple levels of representation and abstraction, making sense of data with no human involvement. Unlike traditional Machine Learning, Deep learning removes all manual steps and instead, it relies on the training process to discover the most significant parameters. In the past three years, deep learning methods, which are deep neural network inspired by how the human brain works, have accomplished groundbreaking success in almost every field they have been applied to.
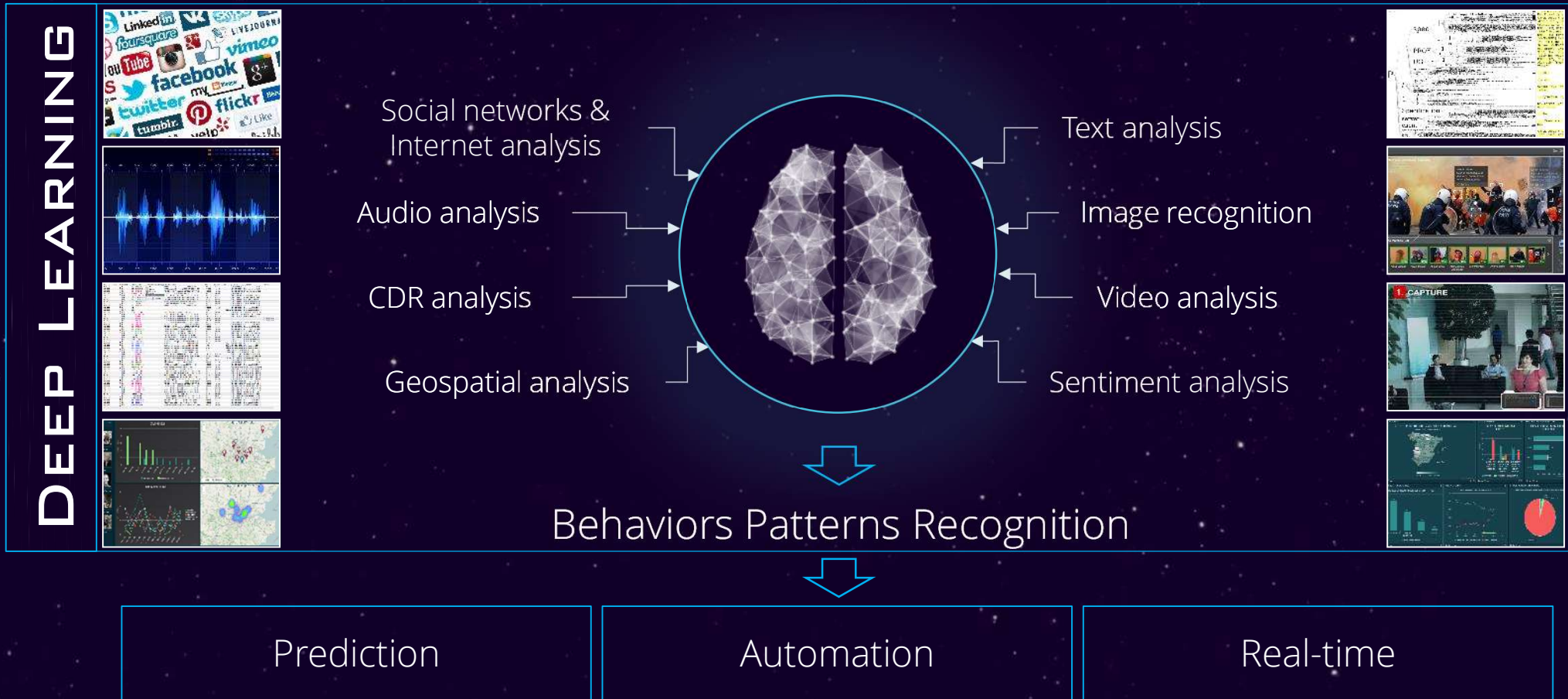
Fifth Dimension is the first company in the world to apply deep learning to the Intelligence domain.

Fifth Dimension Research Group is comprised of worldwide renowned experts in Deep Learning, with more than twenty academic research papers in leading artificial intelligence journals and conferences, mostly focusing on applications of genetic algorithms and neural networks in various real-world domains. Fifth Dimension presented its latest academic work on deep learning and automatic malware classification, which has been accepted for publication, in the most important Neural Networks conference, IJCNN, in July 2015.
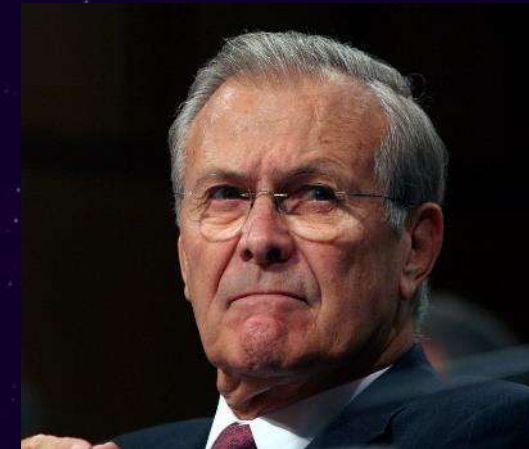
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FIFTH DIMENSION SYSTEM

Mass Data Fusion from all collections sources

DEEP LEARNING

Social networks & Internet analysis

Audio analysis

CDR analysis

Geospatial analysis

Text analysis

Image recognition

Video analysis

Sentiment analysis

Behaviors Patterns Recognition

Prediction	Automation	Real-time

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OUR EDGE: REVEALING THE UNKNOWN UNKNOWNS

LEVEL OF OBSERVABILITY

LEVEL OF RISK

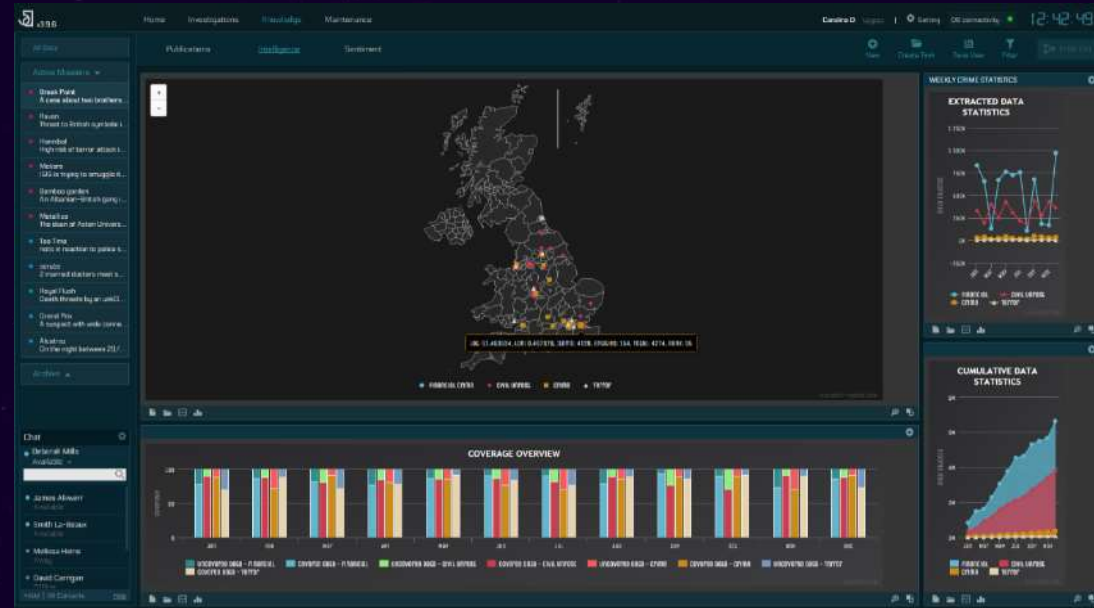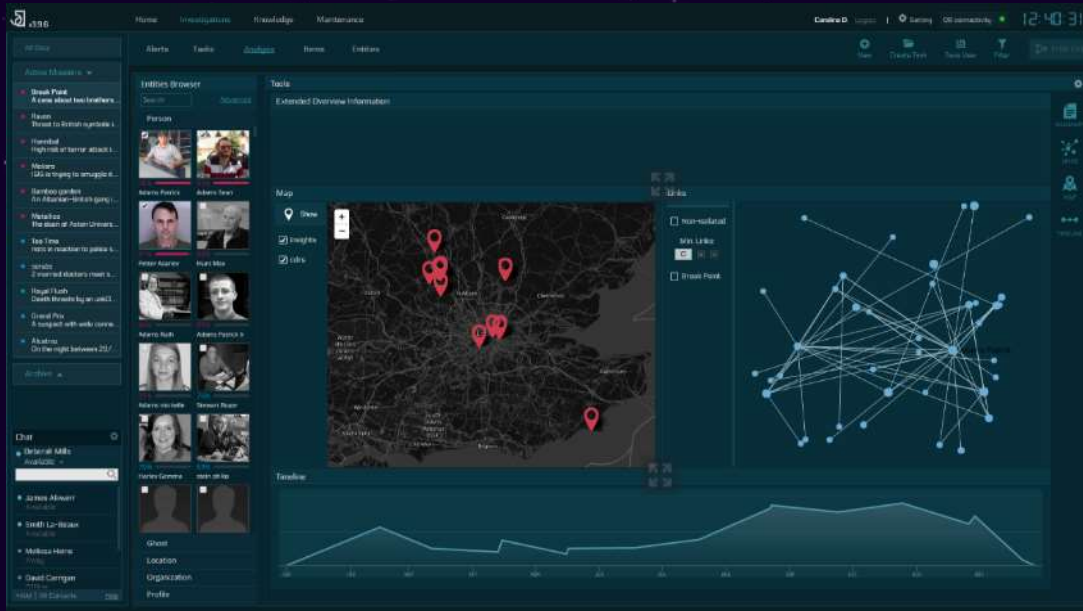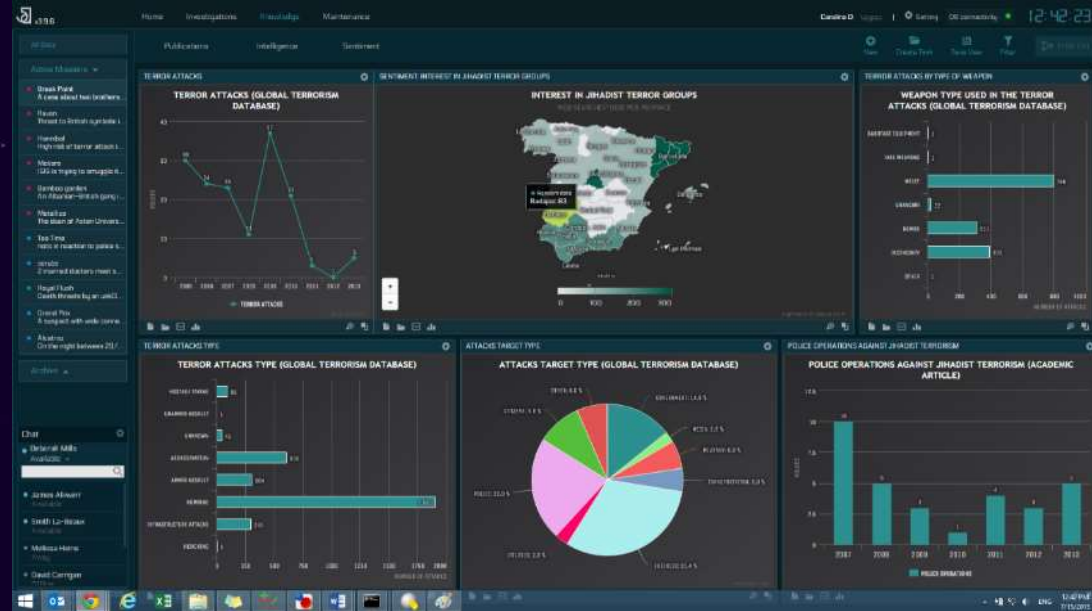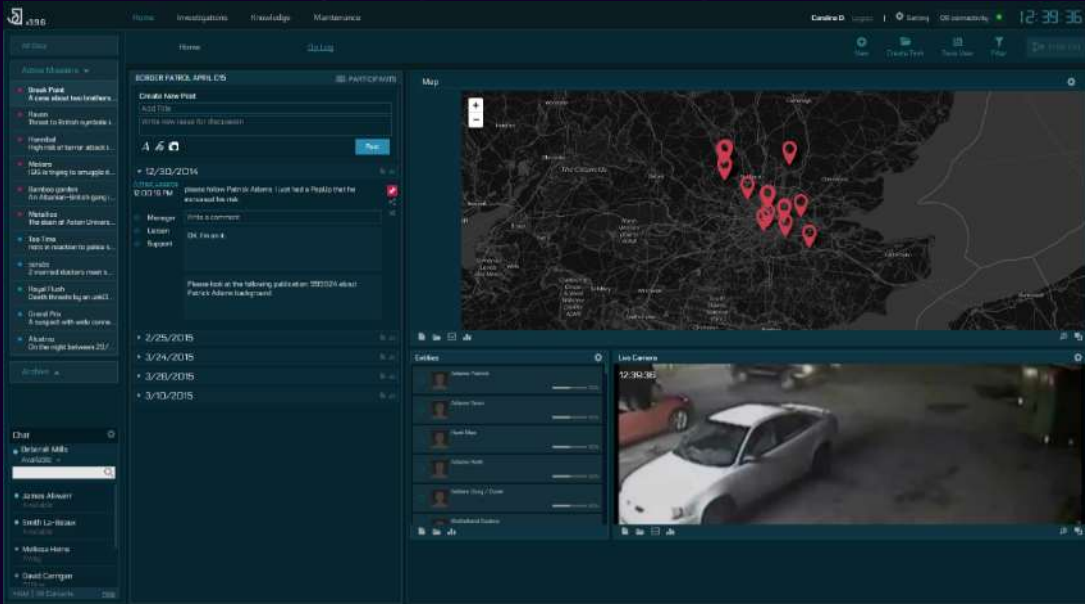|	
FIFTH DIMENSION **KNOWN KNOWNS**	FIFTH DIMENSION **UNKNOWN KNOWNS**
FIFTH DIMENSION **KNOWN UNKNOWNS**	FIFTH DIMENSION **UNKNOWN UNKNOWNS**

RUMSFELD MATRIX

"Reports that say that something hasn't happened are always interesting to me, because as we know, there are known knowns; there are things we know we know. We also know there are known unknowns; that is to say we know there are some things we do not know. But there are also unknown unknowns — the ones we don't know we don't know."

US Defense Secretary Donald Rumsfeld, 2002

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SUPERIOR USER INTERFACE & EXPERIENCE

SUPERIOR USER INTERFACE & EXPERIENCE

OUR UNIQUENESS: MASS DATA & DEEP LEARNING

Mass Data Super Computing

1. Any SOURCE or Size of data
2. Any TYPE of Information
3. One ENTITY MODEL No DB Bottleneck

Holistic INVESTIGATION TOOL

Automatic PREDICTIVE INTELLIGENCE

Real Time ALERTS

Deep Learning Analysis

1. Deep learning Automatic Fusion
2. Deep learning Algorithm – Face, Voice, Social
3. Deep learning Predictive Automation
4. Entities: automatic scoring
5. Automatic threat evaluation
6. Continuous learning

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FIFTH DIMENSION UNIQUE ADDED-VALUE

Fifth Dimension reveals the HIDDEN VALUE from MASSIVE AMOUNT OF DATA and generates AUTOMATED REAL-TIME ALERTS.

MASS DATA FUSION FROM ANY COLLECTION SOURCE

ADVANCED LINK ANALYSIS

ENTIRE INTELLIGENCE LIFECYCLE MANAGEMENT

FULL AUTOMATION

REAL-TIME OPERATIONAL INSIGHTS

SUPERB USER EXPERIENCE AND INTERFACE

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