



# Cullen Commission of Inquiry into Money Laundering in BC

Prepared by:

**Deloitte.**

**quantexa**

Panel | Application of Networks to detect and mitigate organized crime

March 2<sup>nd</sup>, 2021

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The criminal economy is connected,  
networked, collaborative.

The threats are integrated, multi-dimensional,  
dynamic.

**Our approach must be the same.**

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# Real Estate Intelligence Hub

The Art of the Possible



# Real Estate Intelligence Hub | Illustrative Design

Aggregating entities arising across different data sources provides a holistic view of an entity/individual, and its connected counterparties. In combination with advanced analytics, this approach allows for an effective and efficient understanding of financial crime risk.

## Enabling Key Principles



### Privacy by Design

Effective approaches that improve analytical capabilities while maintaining individuals' privacy rights, which are identified, and appropriate privacy controls are built in from the beginning

1

### Data Aggregation

Combined structured data, both internal and external

2

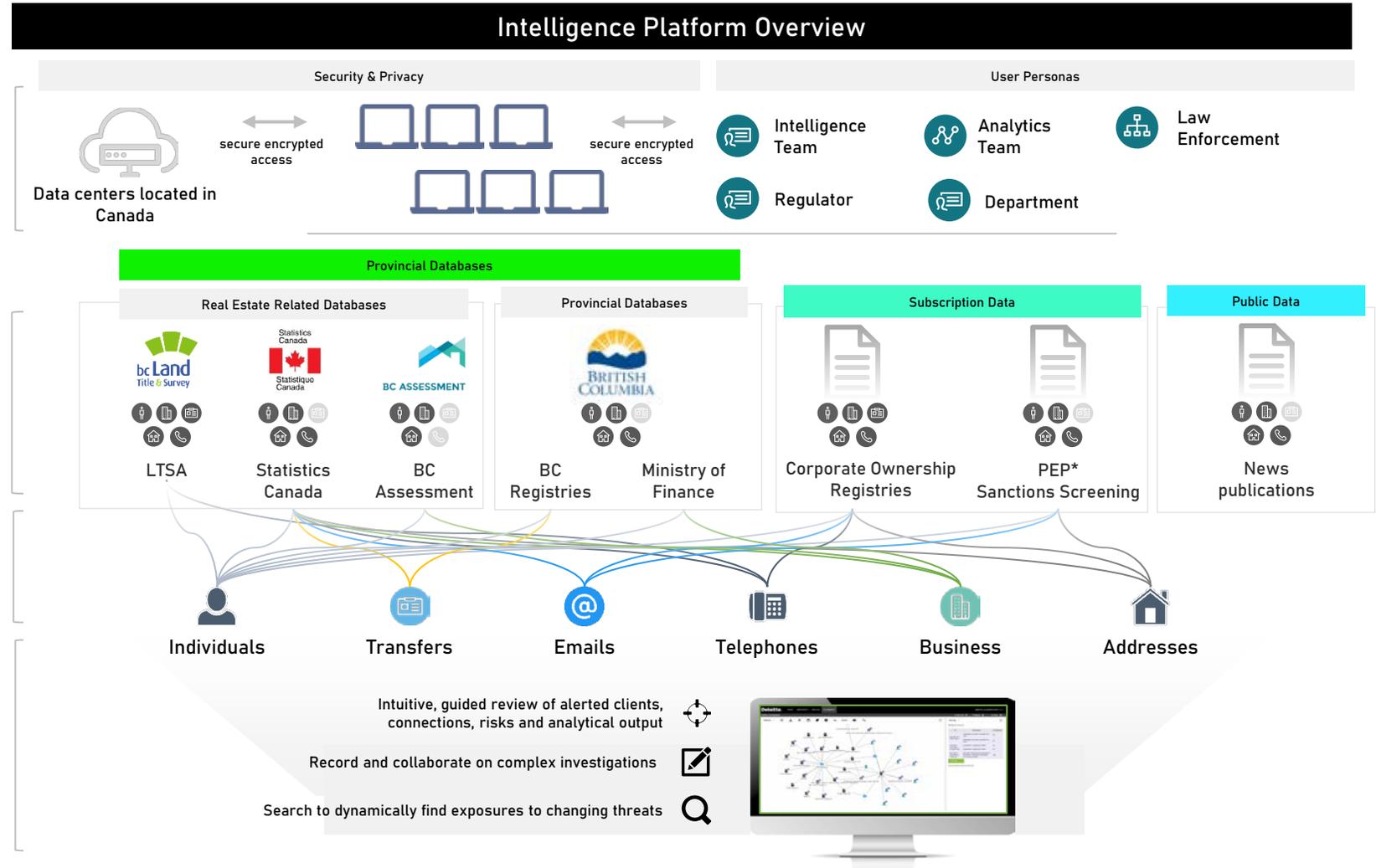
### Entity Resolution

Process of generating a single view of an entity from available data sources

3

### Network Generation & Risk Scoring

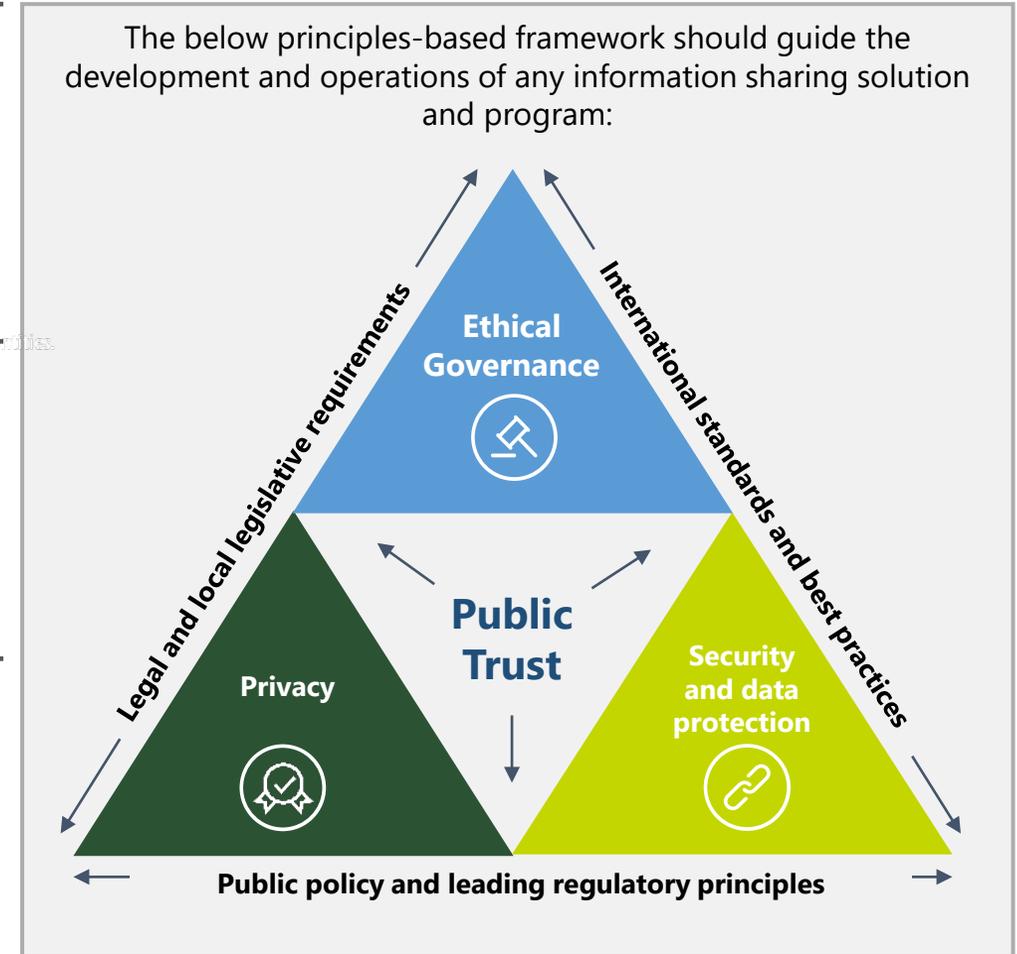
Identification of relevant entity relationships (i.e. based on common and shared attributes), to build a contextual view of network risk. Integration of risk test results (i.e. property title owner as a person or company, names of company directors, payment transaction source/beneficiary, etc.) to identify potential financial crime risks



# Real Estate Intelligence Hub | Information sharing framework

In supporting the design and development of a solution that integrates multiple data sources and applies advanced analytics, the three fundamental principles of Ethical Governance, Privacy, and Security and Data Protection support the solution/program in building trust and promoting the solution adoption for fulfilling the goals of information sharing for financial crime analysis.

<p><b>ETHICAL GOVERNANCE</b></p>	<p>Establish practices and protocols driven by <b>ethical standards</b> to ensure <b>responsible data use</b> and <b>sharing</b> that supports financial crime analysis, while promoting continued <b>trust</b> in the use of the solution.</p> <ul style="list-style-type: none"> <li>Accountability and oversight</li> <li>Ethical decision-making through collective intelligence/insights</li> <li>Data quality</li> <li>Information Sharing Agreements</li> <li>Policy framework</li> <li>Risk analysis (incl. PIAs)</li> <li>Engagement and communication with public interest groups</li> <li>Metrics and reporting</li> </ul>
<p><b>PRIVACY</b></p>	<p>Ensure compliance with applicable <b>privacy laws</b> and <b>privacy-by-design</b> principles.</p> <ul style="list-style-type: none"> <li>Openness and transparency</li> <li>Legislative authority and consent</li> <li>Necessity and proportionality</li> <li>Purpose limitation</li> <li>Individual rights management</li> <li>Disclosure limitations</li> <li>Data linking considerations</li> <li>Regulatory consultation</li> <li>Data residency</li> </ul>
<p><b>SECURITY AND DATA PROTECTION</b></p>	<p>Ensure <b>security</b> and <b>data protection safeguards</b> throughout the solution design and operations supported by demonstrable accreditations/certifications.</p> <ul style="list-style-type: none"> <li>Access and authentication</li> <li>Audit logging and monitoring</li> <li>Backup and disaster recovery</li> <li>Data retention and disposal</li> <li>Encryption</li> <li>Privacy and security preserving techniques</li> <li>Security testing and code review</li> <li>Cloud security safeguards</li> <li>Breach management</li> </ul>



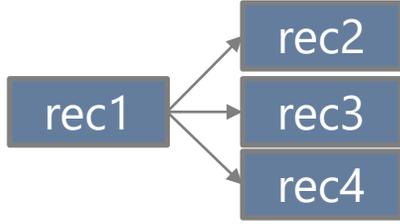
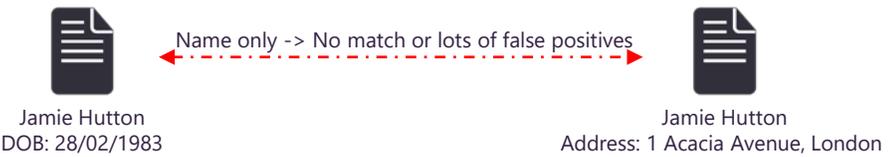
# Collective Intelligence

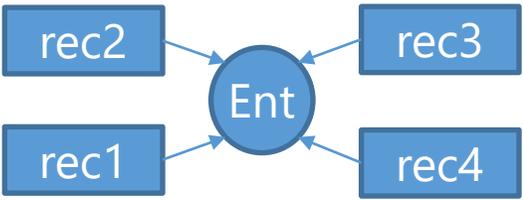
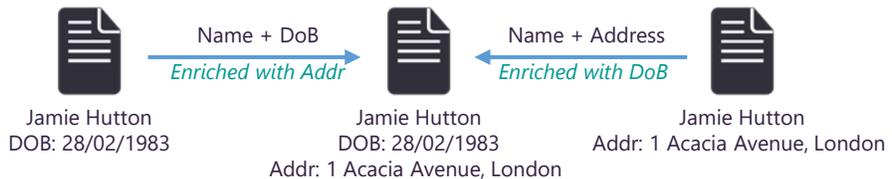
## Overview of Entity Network Analytics



# Traditional Matching versus Entity Resolution Approach



Traditional Matching	
Summary	Record to record comparison of attributes In the most basic form this can be simply "name matching" or "watchlist matching"
Method	 <ul style="list-style-type: none"> <li>Compares attributes in each record</li> <li>Uses a score by attribute to determine a match</li> </ul>
Results	<ul style="list-style-type: none"> <li>Does not work well on sparse records                             <ul style="list-style-type: none"> <li>Either results in massive levels of false positives</li> <li>Or ends up missing results</li> </ul> </li> </ul>
Example	

Quantexa Entity Resolution	
Summary	Builds an entity by collecting attributes across all sources as it matches, then used for further matching. An Entity can be: person, business, address, account, phone, email, device etc
Method	 <ul style="list-style-type: none"> <li>Uses wider data: address, phone, email, country etc</li> <li>Collects up all information to use in subsequent round of matching</li> </ul>
Results	<ul style="list-style-type: none"> <li>Able to make connections between records even when quality poor. Data from other records is iteratively used to enrich all sources, leading to better match rates</li> </ul>
Example	

# Overview of Network Iconography



## Documents are the sources of information



Internal Document/Record such as Land Registry or Bank KYC



External Document/Record such as Corporate Data or Business registries



Financial Transaction / Money Movement



Financial Transaction / Money Movement

## Entities relate to "real world" things and are created from documents



Natural Person



Internal Bank Account



Address



External Bank Account



Landline Telephone



Business



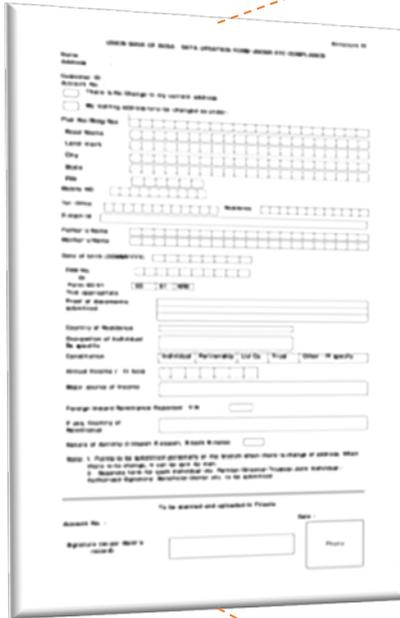
Email Address

# Entity Resolution for Customers and Counterparties



Entity resolution is the process of working out whether multiple records are referencing the same real-world thing. This could be a person, organization, address, phone number, bank account, device etc same person (or organization). Entity Resolution takes multiple, disparate data points - from external and internal sources - and resolves them into a single, unique entity

Land Registry Form (Illustrative)



## Land Registry Form - Key Data

**Land Registry**  
ACME LTD

**Account No.**  
01-22-76 / 88424129

**Start Date**  
14/03/2016

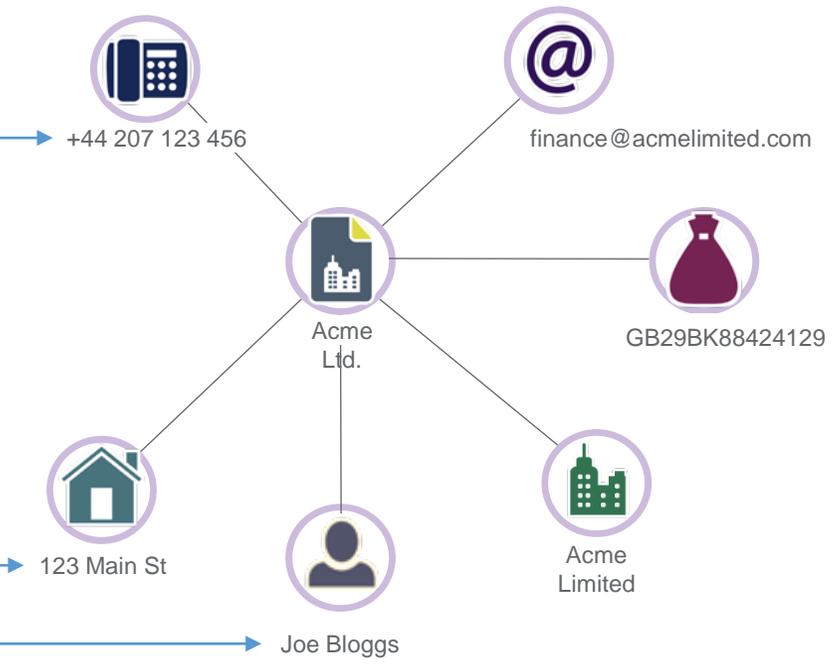
**Status**  
Active

**Telephone**  
+44 207 123 456

**Addresses**  
123 Main Street, London, SW4

**Authorised Signatory**  
Mr Joe Bloggs

**Email**  
finance@acmelimited.com



Visualization of Key Registry Data – Network View

# Resolving Data | Land Title with Corporate Registry Data



## Land Registry Form - Key Data

### Land Registry

ACME LTD

### Account No.

01-22-76 / 88424129

### Start Date

14/03/2016

### Status

Active

### Telephone

+44 207 123 456

### Addresses

123 Main Street, London, SW4

### Authorised Signatory

Mr Joe Bloggs

### Email

finance@acmelimited.com

## Corporate Registry - Key Data

### CORP REG GB10045407 (ACME LIMITED)

**Company Information**  
GB10045407

Country: United Kingdom

Business Name: Acme Limited

Status: Active

Legal Form: Private Limited Company

Incorporation Date: 07/03/2016

Website: www.acmelimited.com

### Addresses

Type	Address	Postcode	Country
Registered Address	123 Main Street, London	SW4	United Kingdom
Trading Address	54 East Road, London	WC1	United Kingdom

### Identifiers

Identifier Type	Identifier Label	Identifier No.
VAT/Tax number	VAT number	GB22334455
Trade number	Company number	10045407

### Shareholders

Name	Shareholding	Info Date	City	Manager?
Globocorp Inc		2019/03	London	
Mr Joe Bloggs	15%	2020/03		✓
Mr John Smith	6%	2020/03		
Mrs Jane Jones	6%	2020/03		
Abc Ventures		2018/12	London	

### Subsidiaries

Name	Direct %	Total %	Status	City	Country
Acme Pte. Ltd.	100.00%	100.00%	Uo+	Singapore	Singapore

### Financials

Closing Date	Turnover	P/L Before Tax	Cash Flow	Assets	Funds	Ratio	Profit Margin
31/03/2019	10238051	-7181545	-5645786	16380979	9689122	2.41	-70.15%
31/03/2018	5017881	-1539340	-989888	4200293	2069389	1.83	-30.68%

### Overview

Primary Business Line: Engaged in the provision of software solutions

### Legal Info

Standardised Status	Listed Status	Delisted Comment	Main Exchange	No. Recent Financials	Filing Exemption
Open			Unlisted		

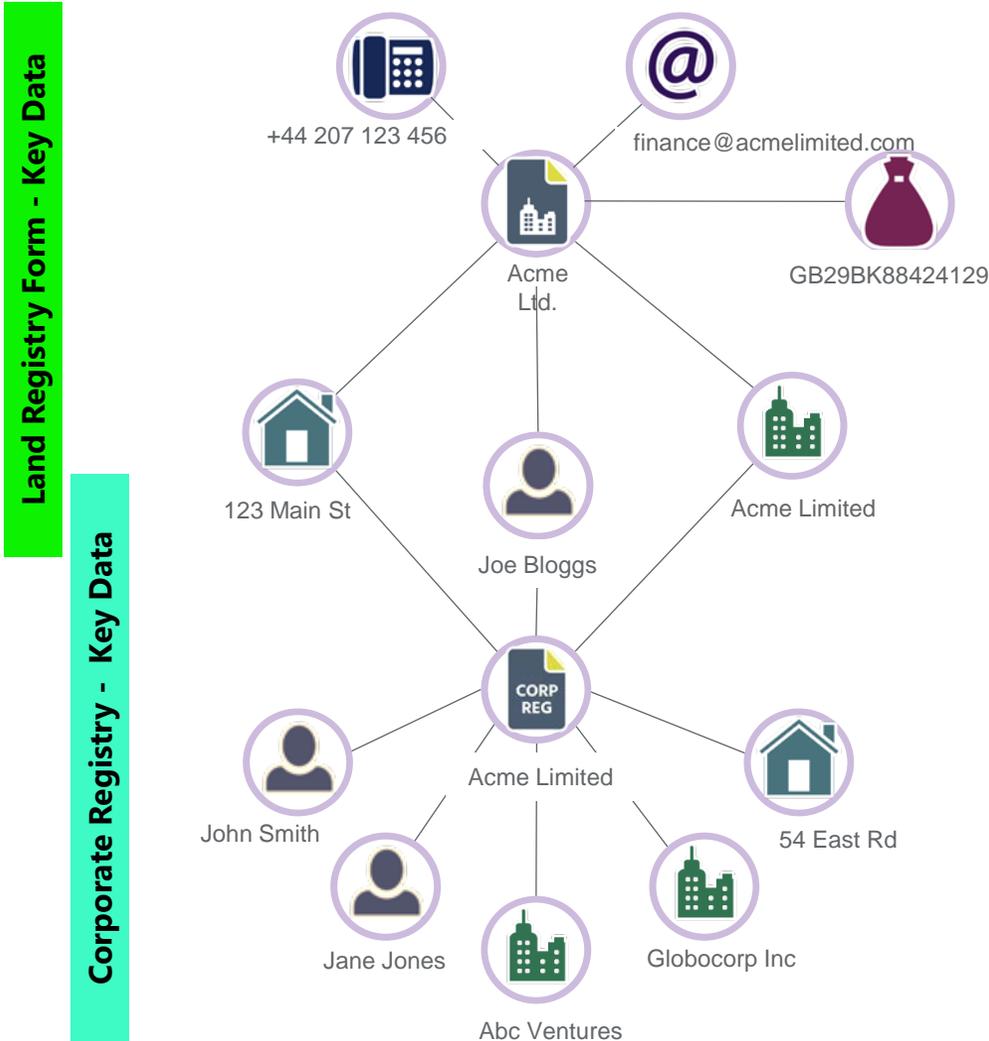
### Industries

Type	Code	Description
SIC	3674	Semiconductors and Related Devices
NAICS	334413	Semiconductor and Related Device Manufacturing

# Dynamically Creating Networks



The main objective of **entity networks** is to find out what **features are common and shared** across all companies, individuals and financial transactions to provide increased intelligence to support decision making.



# Resolving Data | Transactions and Corporate Registry Data



## Corporate Registry - Key Data

**Financial Wire Transfer Message – Key Data**

-----Transaction Message-----

Originator account: RU29BK91244881  
 Originator name: Umbrella Co  
 Originator address: ul. Lesnaya d. 5, Moscow, RU

Date: 27-11-2020  
 Currency: USD  
 Amount: 25,000

Beneficiary account: GB29BK88424129  
 Beneficiary name: Acme Ltd  
 Beneficiary address: 123 Main St, London, UK

Reference: **House Purchase  
 123 Main Street**

**CORP REG RU00040778 (UMBRELLA CO)**

**Company Information**  
 RU10045407  
 Country: Russia  
 Business Name: Umbrella Co  
 Status: Active  
 Legal Form: Private Limited Company  
 Incorporation Date: 12/10/2010  
 Website: www.umbrella.com

**Addresses**

Type	Address	Postcode	Country
Registered Address	ul. Lesnaya d. 5, kv. 176, Moscow	247112	Russia

**Identifiers**

Identifier Type	Identifier Label	Identifier No.
Tax number	TIN	34752984572
Trade number	Company number	0000141309

**Shareholders**

Name	Shareholding	Info Date	City	Manager?
Megacorp Plc		2010/03	Moscow	
Mr Sergei Borgov	62%	2010/03		✓

**Financials**

Closing Date	Turnover	P/L Before Tax	Cash Flow	Assets	Funds	Ratio	Profit Margin
31/03/2019	3572387994	99181545	5645786	106380979		4.41	45.15%
31/03/2018	4252984548	5539340	989888	40200293		3.83	30.68%

**Overview**  
 Primary Business Line: Engaged in the provision of software solutions

**Telephone**  
 Telephone: +7495719301

**Legal Info**

Standardised Status	Listed Status	Delisted Comment	Main Exchange	No. Recent Financials	Filing Exemption
Open			Unlisted		

**Industries**

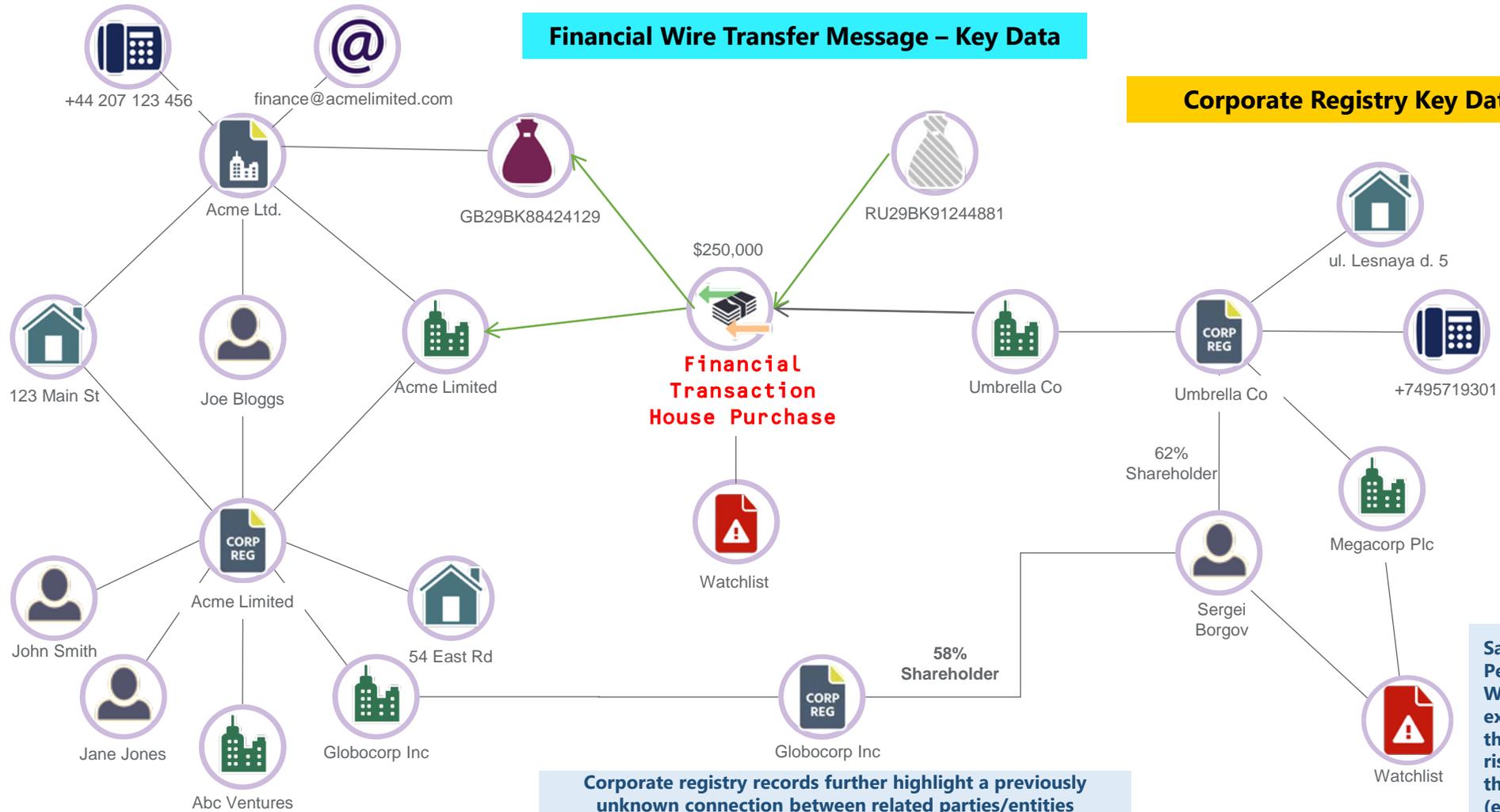
Type	Code	Description
SIC	3721	Aircraft
NAICS	336411	Aircraft Manufacturing

# Dynamically Creating Networks | Identifying Financial Crime Risk



Land Registry Form Key Data

Corporate Registry Key Data



Financial Wire Transfer Message – Key Data

Corporate Registry Key Data

Corporate registry records further highlight a previously unknown connection between related parties/entities including a controlling influence

Sanctions "The 50 Percent Rule" - Watchlist data identifies exposure to individuals that present material risk considerations for the control framework (e.g. % ownership rules, PEPs, ...)

# Panel Demonstration – Sanitized Data



The demonstration for the Cullen Commission Panel has been generated **with fictitious synthetic data** without the use of any personally identifiable information.

The names and locations you will see are potentially valid names and real locations, to provide a sense of realism to the audience, but they are **not referencing real people** that have links to that location.

Any links that may occur are inadvertent or coincidental. Quantexa makes no assumptions or aspersions on any individual or organisation.

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