

Prepared by:



Cullen Commission of Inquiry into Money Laundering in BC

Panel | Application of Networks to detect and mitigate organized crime

March 2nd, 2021

The criminal economy is connected,
networked, collaborative.

The threats are integrated, multi-dimensional,
dynamic.

Our approach must be the same.

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

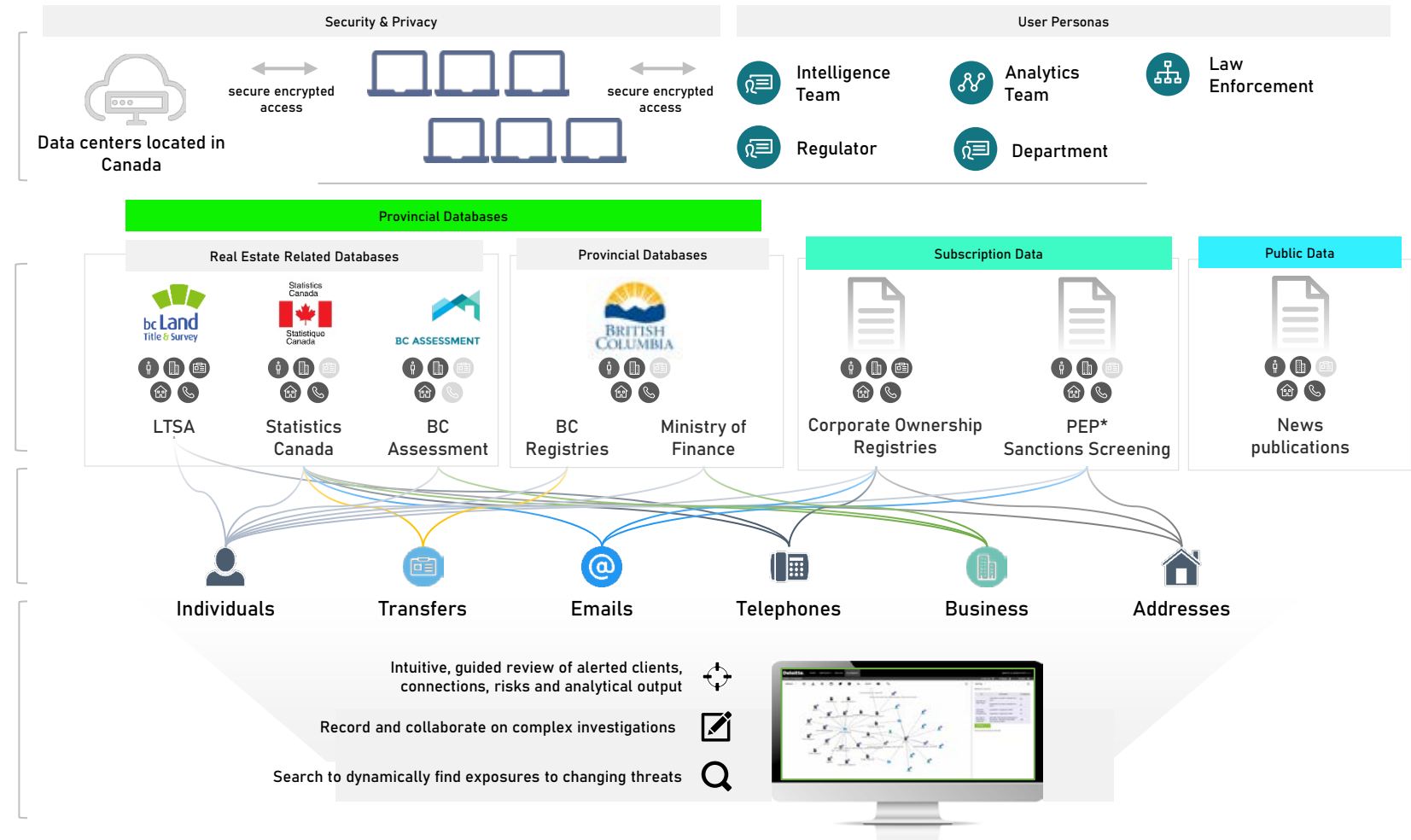
Process of generating a single view of an entity from available data sources

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

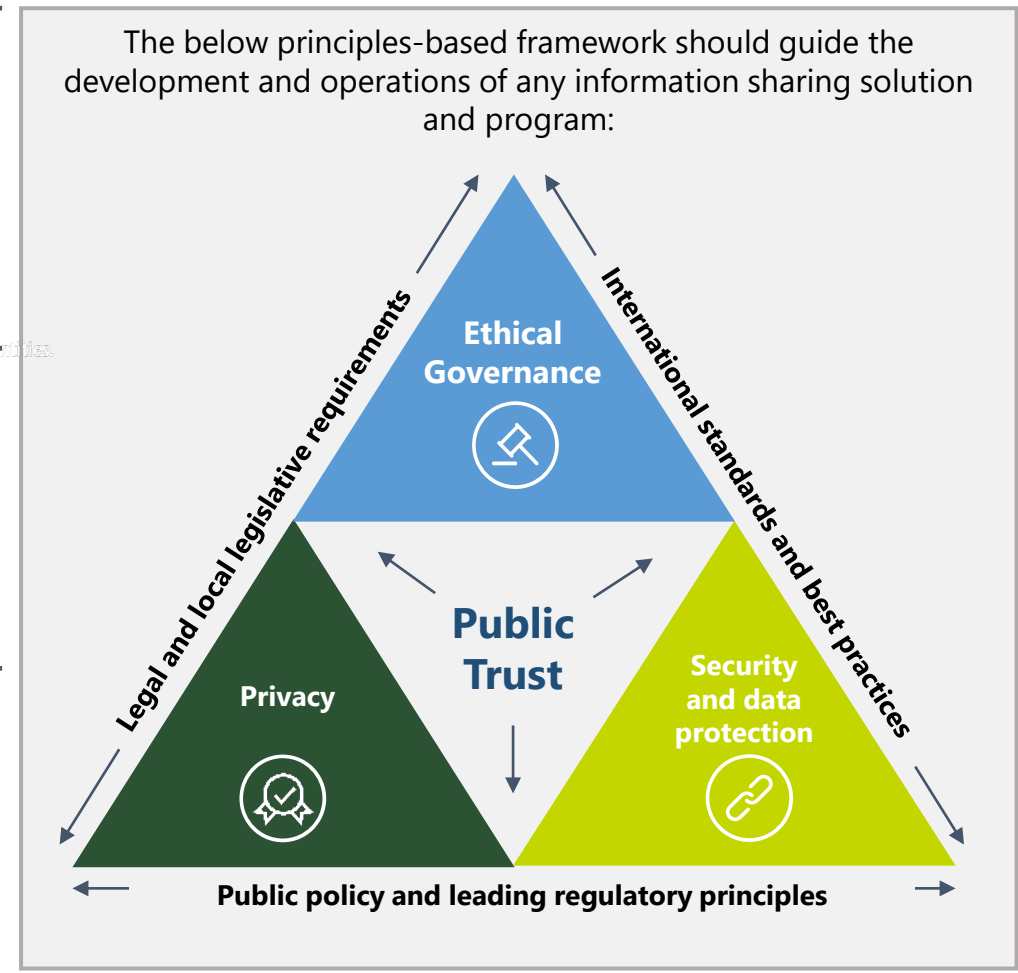
Intelligence Platform Overview



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.

ETHICAL GOVERNANCE	<i>Establish practices and protocols driven by ethical standards to ensure responsible data use and sharing that supports financial crime analysis, while promoting continued trust in the use of the solution.</i>	<ul style="list-style-type: none">Accountability and oversightEthical decision-making through collective intelligence/insightsData qualityInformation Sharing Agreements <ul style="list-style-type: none">Policy frameworkRisk analysis (incl. PIAs)Engagement and communication with public interest groupsMetrics and reporting
PRIVACY	<i>Ensure compliance with applicable privacy laws and privacy-by-design principles.</i>	<ul style="list-style-type: none">Openness and transparencyLegislative authority and consentNecessity and proportionalityPurpose limitation <ul style="list-style-type: none">Individual rights managementDisclosure limitationsData linking considerationsRegulatory consultationData residency
SECURITY AND DATA PROTECTION	<i>Ensure security and data protection safeguards throughout the solution design and operations supported by demonstrable accreditations/certifications.</i>	<ul style="list-style-type: none">Access and authenticationAudit logging and monitoringBackup and disaster recoveryData retention and disposalEncryption <ul style="list-style-type: none">Privacy and security preserving techniquesSecurity testing and code reviewCloud security safeguardsBreach management



Collective Intelligence

Overview of Entity Network Analytics



Traditional Matching versus Entity Resolution Approach



	Traditional Matching	Quantexa Entity Resolution
Summary	Record to record comparison of attributes In the most basic form this can be simply "name matching" or "watchlist matching"	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	<pre>graph LR; rec1 --> rec2; rec1 --> rec3; rec1 --> rec4;</pre> <ul style="list-style-type: none">Compares attributes in each recordUses a score by attribute to determine a match	<pre>graph LR; rec1 --> Ent((Ent)); rec2 --> Ent; rec3 --> Ent; rec4 --> Ent;</pre> <ul style="list-style-type: none">Uses wider data: address, phone, email, country etcCollects up all information to use in subsequent round of matching
Results	<ul style="list-style-type: none">Does not work well on sparse records<ul style="list-style-type: none">Either results in massive levels of false positivesOr ends up missing results	<ul style="list-style-type: none">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
Example	<p>Record 1: Jamie Hutton, DOB: 28/02/1983</p> <p>Record 2: Jamie Hutton, Address: 1 Acacia Avenue, London</p> <p>Comparison: Name only -> No match or lots of false positives</p>	<p>Record 1: Jamie Hutton, DOB: 28/02/1983</p> <p>Record 2: Jamie Hutton, DOB: 28/02/1983, Addr: 1 Acacia Avenue, London</p> <p>Comparison: Name + DoB Enriched with Addr</p>

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



Address



Landline Telephone



Business



Email Address



Internal Bank Account



External Bank Account

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 - 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

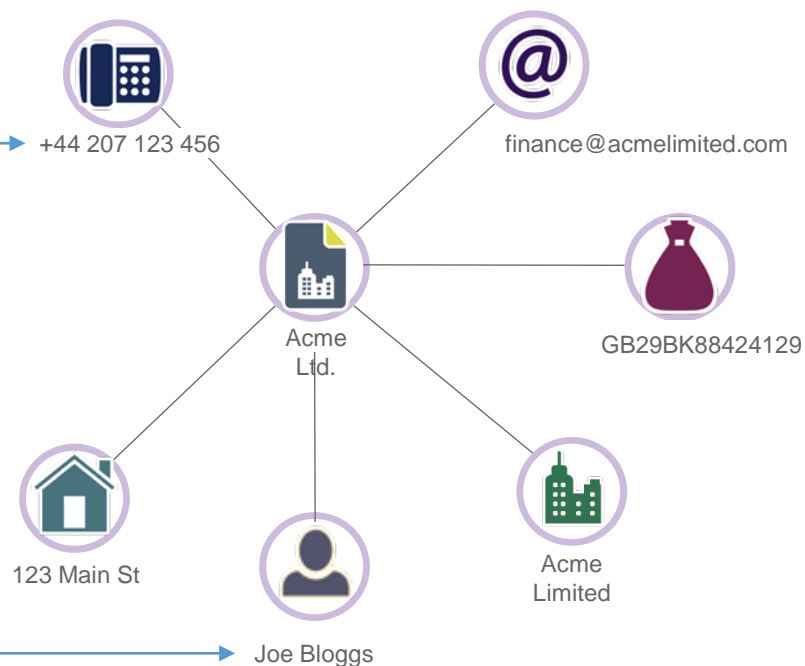
Authorised Signatory

Mr Joe Bloggs

Email

finance@acmelimited.com

Land Registry Form (Illustrative)



Visualization of Key Registry Data – Network View

Resolving Data | Land Title with Corporate Registry Data



Land Registry Form - Key Data

Land Registry

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Addresses

123 Main Street, London, SW4

Authorised Signatory

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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		

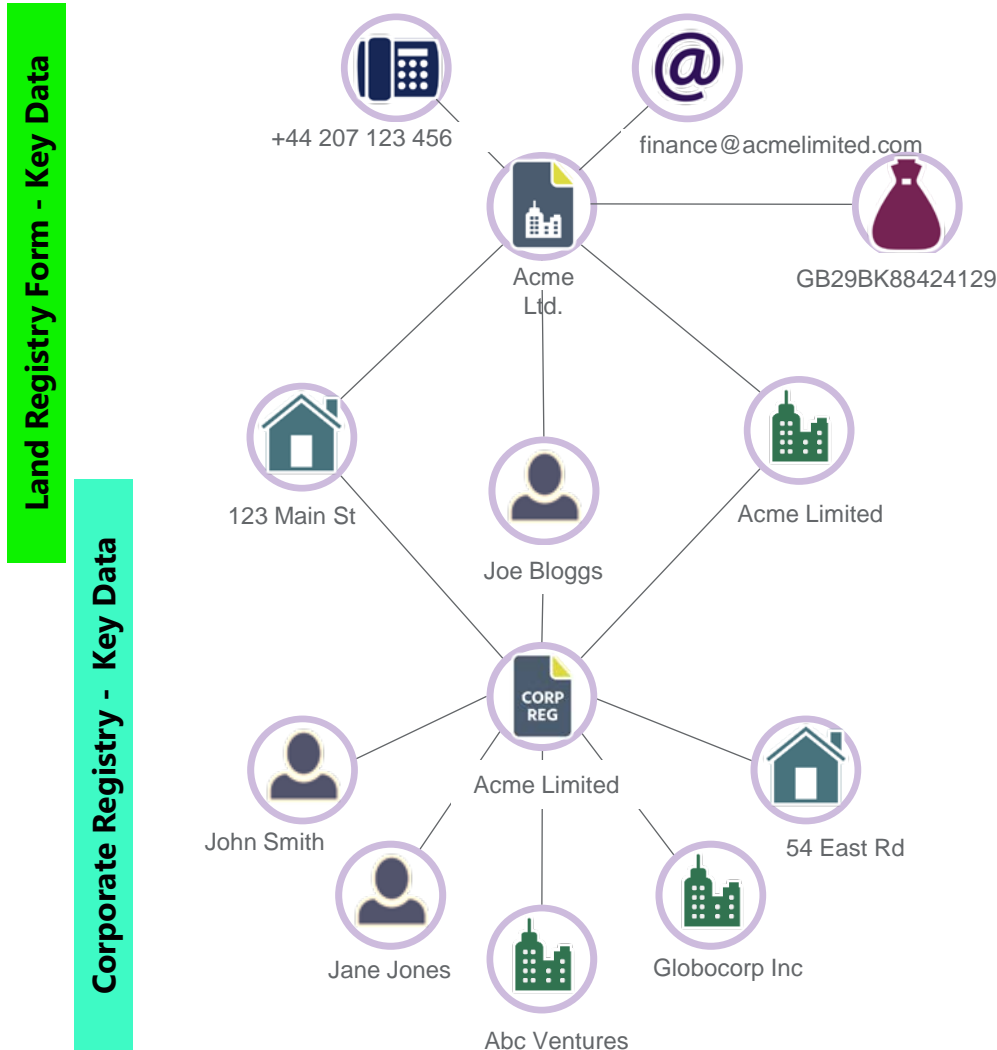
Industries

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

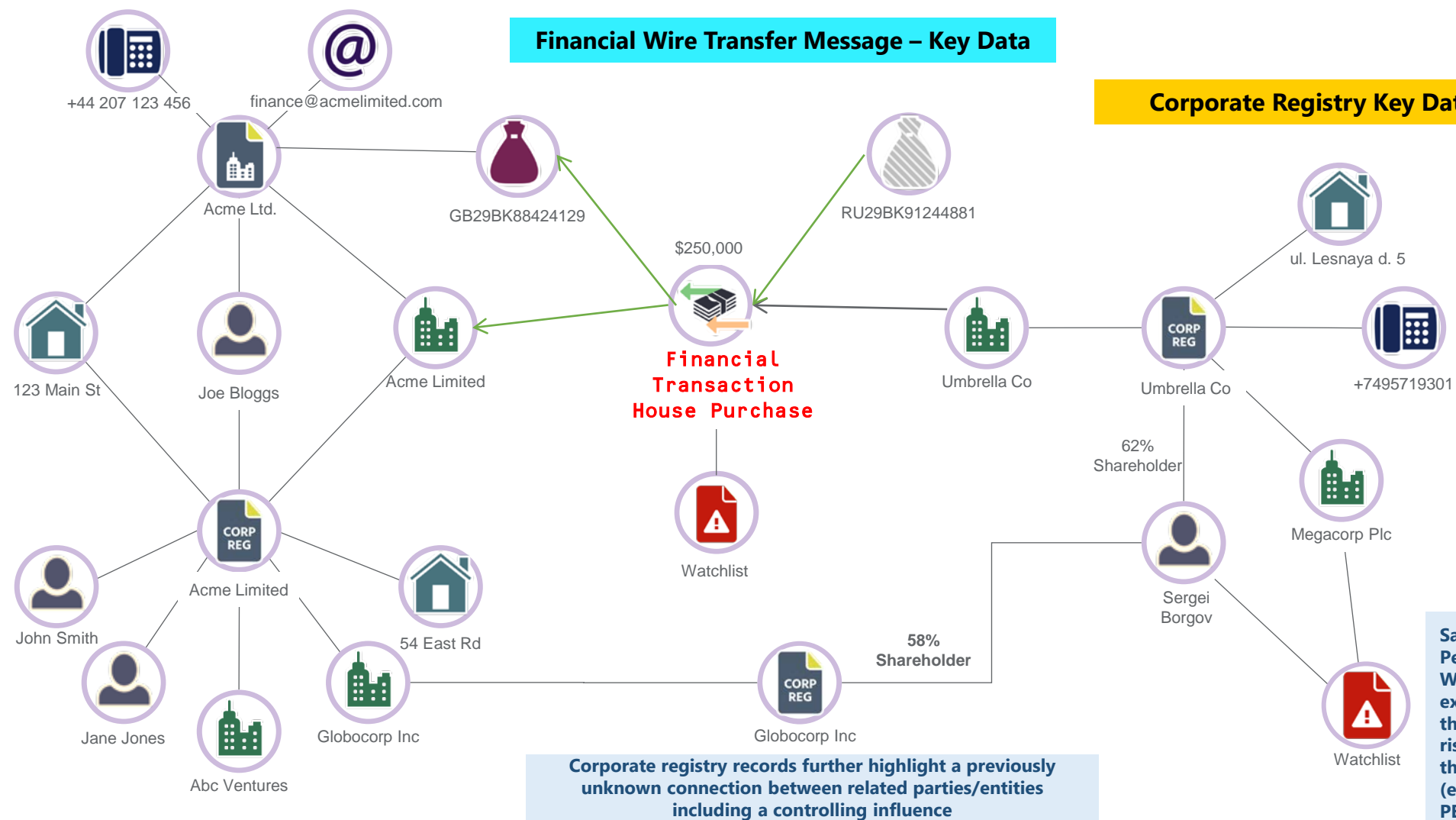
Type	Code	Description
SIC	3721	Aircraft
NAICS	336411	Aircraft Manufacturing

Dynamically Creating Networks | Identifying Financial Crime Risk



Land Registry Form Key Data

Corporate Registry Key Data



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

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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