



Webinar—Current Trends in Property Insurance Valuation

2 November 2023



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Leading Provider of Global Risk and Financial Advisory Solutions

We help clients detect, manage and mitigate enterprise risk and make strategic and informed financial decisions to protect and maximize value

Valuation

Valuation of businesses, assets and alternative investments for financial reporting, tax and other purposes.

Compliance and Regulation

End-to-end governance, advisory and monitorship solutions to detect, mitigate and remediate security, legal, compliance and regulatory risk.

Corporate Finance and Restructuring

M&A advisory, restructuring and insolvency, debt advisory, strategic alternatives, transaction diligence and independent financial opinions.

Cyber Risk

Incident response, digital forensics, breach notification, managed detection services, penetration testing, cyber assessments and advisory.

Environmental, Social and Governance

Advisory and technology solutions, including policies and procedures, screening and due diligence, disclosures and reporting, investigations, value creation and monitoring.

Investigations and Disputes

World-wide expert services and tech-enabled advisory through all stages of diligence, forensic investigation, litigation, disputes and testimony.

Digital Technology Solutions

Enriching our professional services, our integrated software platform helps clients discover, quantify and manage risk in the corporate and private capital market ecosystem.

Business Services

Expert provider of complex administrative solutions for capital events globally. Our services include claims and noticing administration, debt restructuring and liability management services, agency and trustee services and more.

Kroll Fixed Asset Advisory Services

We are the Largest Independent Valuation Advisory Firm

We have a team of

225+

professionals

Annually we value over

\$1 trillion

assets for insurance

In 2022, we performed

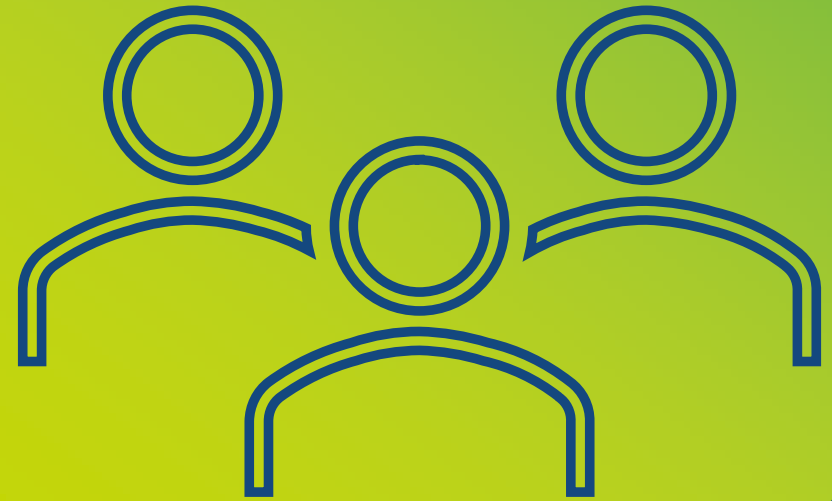
10K+

engagements for 3K+ clients

Industry partners



Speakers Introduction



Bradley Schulz



Managing Director
Fixed Asset Advisory Services

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Brad is a managing director for Kroll, within the Fixed Asset Advisory Services practice. He is a national leader of the property insurance appraisal practice and manages staff throughout the Fixed Asset Advisory Services regional offices including Atlanta, Chicago, Los Angeles, and Richardson, TX. He also oversees teams that perform Building Insurance Appraisal and Inspections, Equipment/Personal Property Insurance Appraisal and Inventory, Risk Pool Appraisals, Property Insurance Appraisal Updating Services and Property Clarity/Web-Based Reporting.

Brad has valued numerous 19th- and 20th-century churches and cathedrals, and directs appraisers to ensure accurate, consistent and quality valuations. He has also appraised and valued numerous international airport terminals/concourses and related aviation structures throughout the U.S.

In addition, Brad has significant experience with insurance, accounting (GASB 34) and property record engagements for the public sector, valuing assets such as buildings, land, land improvements, infrastructure and water/wastewater facilities/systems.

Brad joined Kroll (formerly Duff & Phelps) in 2002. He received his BA in economics from the University of Illinois - Urbana-Champaign. He is an Accredited Senior Appraiser by the American Society of Appraisers and also currently is a member of their national Machinery & Technical Specialties (MTS) Committee.

Matthew Donahue



Managing Director
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Matthew Donahue leads the Fixed Asset Advisory Services team within the Valuation Advisory Services practice in Amsterdam and the UK. Matthew has over twelve years of experience working at Kroll. Before joining the Amsterdam office in January 2018, Matthew worked in the San Francisco office for seven years.

Matthew's primary responsibilities include valuing fixed assets (property, plant and equipment) for financial and tax reporting, purchase price allocations, insurance appraisals, asset-based lending, fixed asset due diligence, fresh start accounting, property tax consulting, bankruptcy and liquidation studies, and impairment issues for various types of businesses.

During his time in the San Francisco office, Matthew's work focused primarily on the technology, media and telecom sector, with a specific focus on the valuation of semiconductor fabrication facilities, data centers, photovoltaic cell manufacturing plants and telecommunications equipment. Since moving to Amsterdam, Matthew's industry coverage has broadened, with much of his work coming from more general industrial manufacturing, industrial chemicals, paints and coatings, storage and logistics, animal nutrition and aquafeed, as well as liquid storage terminals, to name a few.

Some of Matthew's recent engagement highlights include the valuation of tangible fixed assets associated with over 50 worldwide chemical plants, with assets valued at more than EUR 4 billion (bn) out of the total deal size of EUR 10 bn and the valuation of six semiconductor fabrication facilities in Asia with a combined value close to USD 9 bn.

Matthew has been involved with valuations of both domestic and international business assets, with personal experience visiting facilities in over 20 countries including Canada, Germany, Japan, the UK and the U.S. Matthew is fluent in Spanish and has conducted over 10 site visits in Mexico.

Matthew received a B.S. in finance from The University of Denver with a minor in Spanish. He is also an American Society of Appraisers Candidate and has completed coursework for ME201, ME202, ME203 and ME204.

Rozhan Mak



Senior Product Manager
Fixed Asset Advisory Services

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Rozhan Mak is a Senior Product Manager in the Toronto office and is a member of the Fixed Asset Advisory Group. She has more than 10 years of experience delivering innovative and effective financial software SaaS products tailored to financial industry.

In her current role, she leads Kroll's Property Insurance Valuation Platform, overseeing the entire product lifecycle and focused on consulting with insurance industry leaders, offering expert guidance on property valuations and digital transformation strategies. She helps clients navigate the challenges of getting valuations in an inflationary market by leveraging highly configurable technology.

Rozhan's specialization lies in the development and management of complex financial software products by translating intricate financial models and technological concepts into practical, user-friendly applications. She is also working to equip the industry with cutting-edge technology and expert-level tools for managing substantial fixed asset portfolios, all while maintaining a keen eye on user-centric design. She is committed to strategic leadership and pioneering transformative solutions.

Her extensive range of experience includes insurance products, Actuarial analysis, AI applications in finance, e-commerce, Biotechnology and direct to consumer offerings.

Rozhan received his Bachelor of Science in Statistics and Data Science from SBU University of Tehran and previously held the role of Head of Product at a Fintech startup before joining Kroll in 2022.

Navigating inflation and property risks in 2024



What Have We Been Doing?

✔▶ Historical Review

- Soft Market
- Appraisals over time with less urgency
- Conducted without long term planning
- Replacement cost focus with less consideration for data

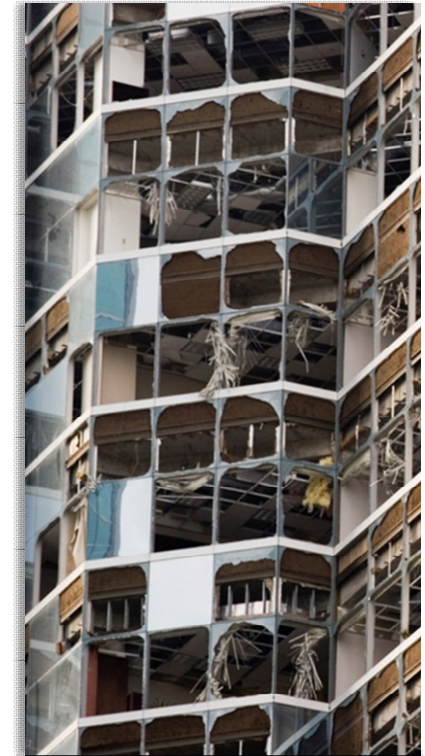
✔▶ New Normal

- Hard Market
- Immediate need to address valuation concerns prior to renewal
- Emphasis to have ongoing valuation concerns addressed
- Inflation, inflation, inflation
- Accurate valuations, in addition to COPE data

What is COPE data?

- ✔ ▶ Underwriters are interested in receiving more than just a valuation; they also want COPE data.
 - Construction (e.g., frame, brick, masonry, masonry veneer, etc.)
 - Occupancy (how the building is being used)
 - Protection (e.g., quality of the responding fire department, adequacy of water pressure and water supply in the community, the presence or absence of smoke alarms, etc.)
 - Exposure (risks of loss posed by neighboring property or the surrounding area, taking into consideration what is located near the property, such as an office building, a subdivision or a fireworks factory)

- ✔ ▶ More and more data is being requested over time



Why is underinsurance of concern for the industry?



Averaging in the event of a loss



Valuations are cost prohibitive for SME businesses



Valuations are out of date quickly due to inflation



Insurers have a duty to report any material fact under the Insurance Act and due to rapid inflation, they are now uncertain of asset values



Brokers lose negotiating power when values are not up to date



Insurers need to assess their own level of risk

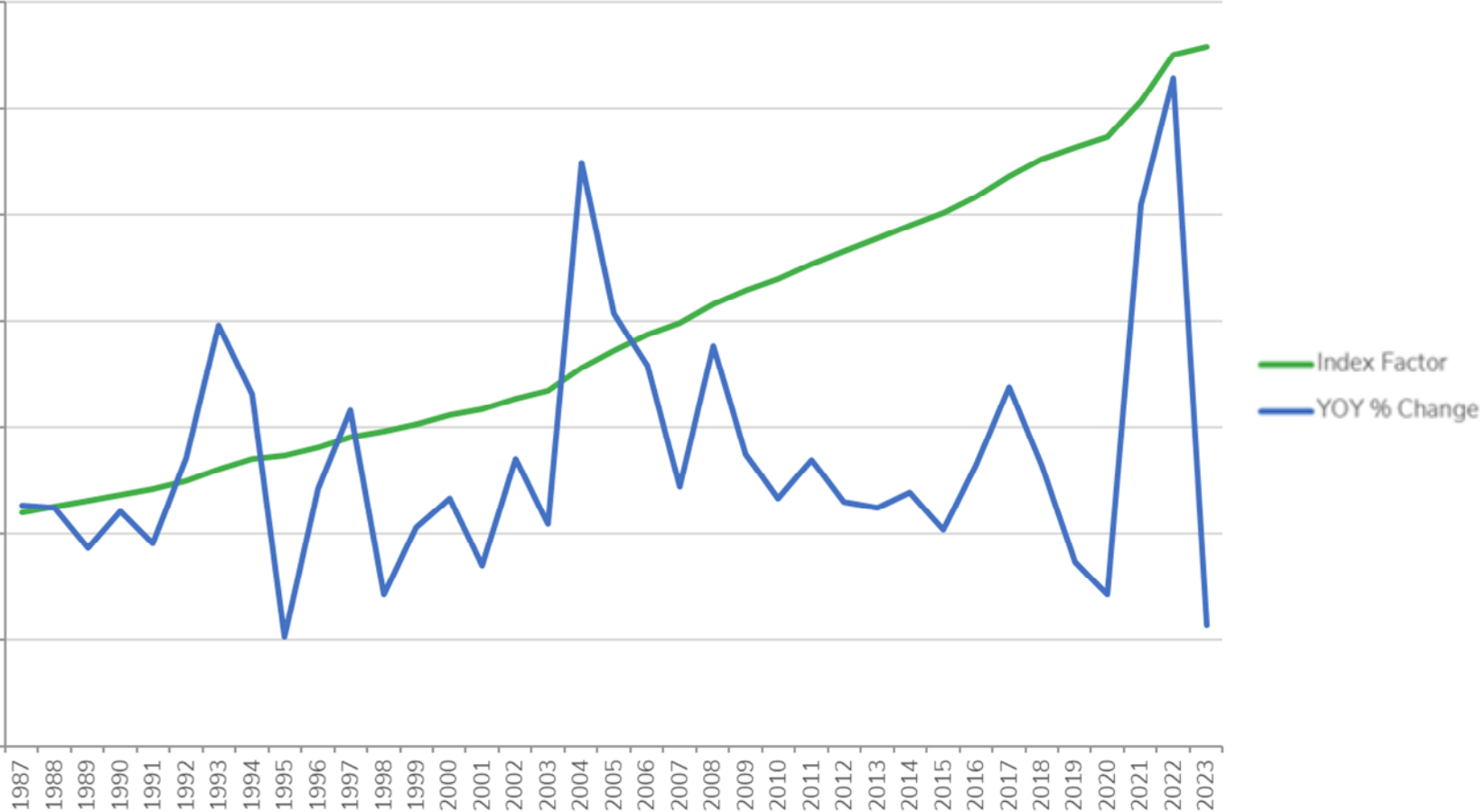
What has changed?

✔ Major under value concerns

- Cost increases in construction due to labor shortages, supply chain issues, material costs, etc.
- 2021 billion-dollar losses continuing to recent
- Catastrophe (CAT) risk models
- Data, data, and more data
- Challenges with client-supplied information
- Shift from soft to hard market

Current Cost Trends – U.S. Construction

Construction Costs Over Time



Sources cited:
FM Global, Industrial Cost Trends, United States Industrial Building Average
RS Means, 30 City Average Construction Cost Index
Marshall & Swift, Quarterly Cost Index

Private and Confidential

Why are so many assets currently underinsured?

Generally, very few properties in a portfolio are independently valued. This is either due to capacity or cost constraints.

Inflation affects the replacement cost accuracy and increases the need for frequent valuations.

Replacements costs for many buildings are only revalued every 3-5 years.

The resulting valuation gap has rapidly increased over the last three years due to the strong increase in inflation.

Therefore, it is crucial that companies understand the impact of inflation on their assets and regularly reevaluate their portfolio to stay properly insured.

Initial Diagnostic Review of Property Values

- ✔▶ What's the source of your current property listing and values?
 - Appraisal
 - Trended historical costs
 - Standardized property values worksheets
 - New construction costs
 - Staff estimates
 - Assistance from your Broker / Underwriter (Marshall & Swift “brown book”)
 - Don't know!

Initial Diagnostic Review of Property Values

✔▶ What's the source of your current property listing and values?

- Occupancy:
 - Municipal Office Building, Town Hall, Fire Station, Water Treatment, Wastewater Treatment, High School, Community College, Library, Senior Housing, etc.
- Use gross area (square foot) as a basis of comparison:
 - Exterior wall to exterior wall; include basements, parking, common areas, etc.
 - Develop \$/Sq. Ft for buildings and contents
- Use process capacity as a basis of comparison where appropriate:
 - \$/Units/day; \$/MW; GPD; etc.



Benefits of an Accurate Replacement Cost

- ✔▶ Determine the adequacy of insurance coverage
 - Complete property listing
 - Accuracy of values
 - No surprises at the time of loss
- ✔▶ Improved risk management
 - Consistent approach to quantification of risk
- ✔▶ Improved marketability to underwriters
- ✔▶ Optimizes CAT modeling performance
- ✔▶ Basis for equitable allocation of premiums
- ✔▶ Basis for preparation of a “proof-of-loss”
- ✔▶ Partnership – Insured/Insurer

Insurance Valuation

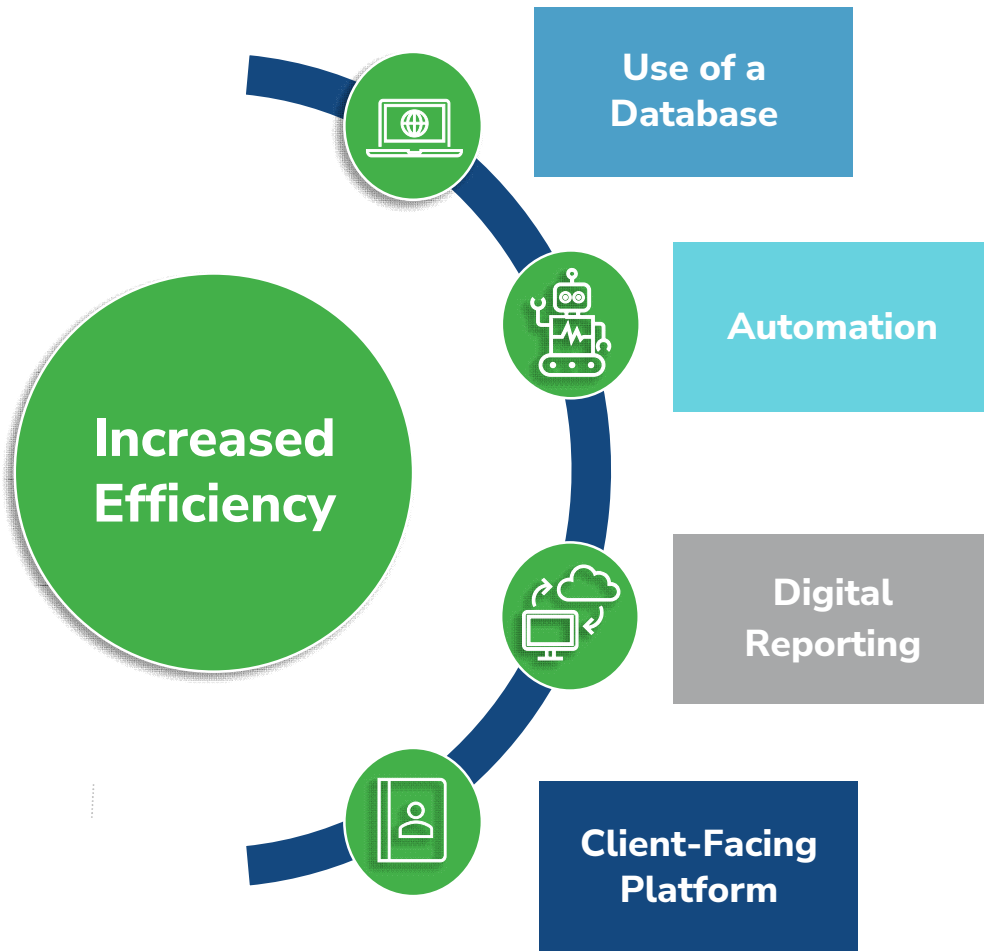
Methodology benefits and limitations

Direct Costing	Trending	Benchmarking
<p>Benefits</p> <ul style="list-style-type: none">• Considered to be the most precise cost new estimation <p>Limitations</p> <ul style="list-style-type: none">• Not practical for large amount of assets• Requires collaboration from OEM's representatives	<p>Benefits</p> <ul style="list-style-type: none">• Fast, suitable for large amount of assets• Takes into account all direct and indirect installation cost• Provides cost new for every capitalized asset item <p>Limitations</p> <ul style="list-style-type: none">• Good asset registers necessary• Accuracy of trend factors• Not suitable for old assets and assets located in unstable economies• Not taking into account technological advancement	<p>Benefits</p> <ul style="list-style-type: none">• Fast, suitable for preliminary guide to value <p>Limitations</p> <ul style="list-style-type: none">• Seen as inaccurate, high level• No granular detail on individual assets• Availability of reliable benchmarking data

How are data and automation shaping the future of commercial property insurance?



How we work?



- All data, functions, knowledge in a centralized place for consistency and ease of access.
- Convert Excel models into code that can process data at scale.
- Report results digitally using PowerBI with enhanced visual representations of the data.
- Combining the database, consistent standards, and automation of our model calculations, we can provide an automated solution for valuing properties at scale.

Database

Statistical Offices

- Producer Price Indices
- Construction Price Indices

New Cost Data

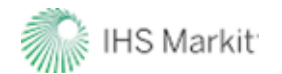
- Construction costs for Real Estate
- Unit costs for Machinery & Equipment

Kroll Standards

- Valuation Assumptions
- Naming Conventions

Past Projects Results

- Industry insights
- Benchmarking Data



Use of Coding & Python Scripts

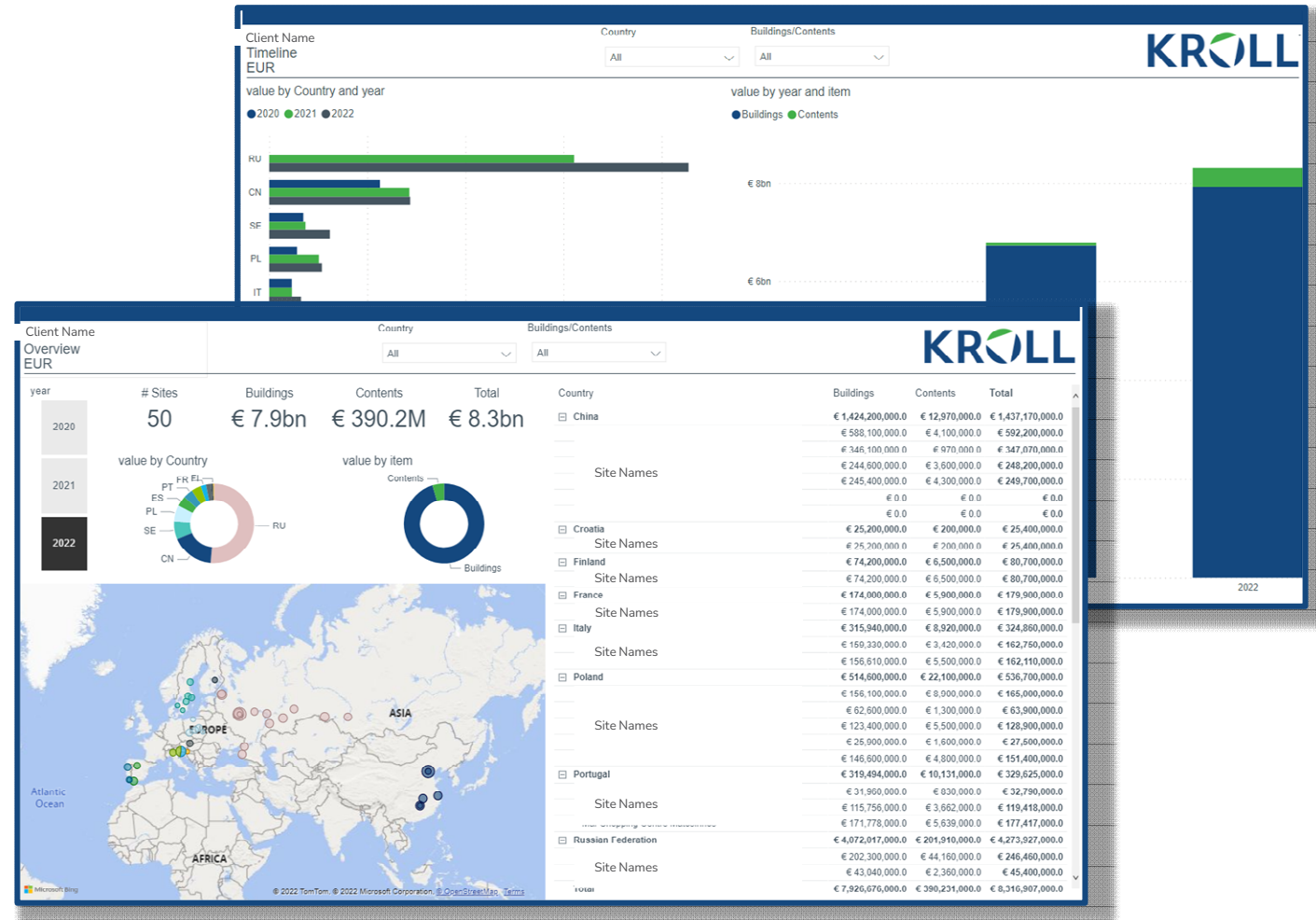
```
File Edit Selection View Go Run Terminal Help
EuroStat_PPI_domestic_Pull_NEW.py - Visual Studio Code
EuroStat_PPI_domestic_Pull_NEW.py | X Japan_Pull.py |
C:\Users\matthew.donahue > Kroll > Fixed Asset Advisory Services (FAAS) Repository - Documents (1) > Database > TFA_All_TrendsMonth > data > EuroStat PPI > EuroStat_PPI_domestic_Pull_NEW.py > ...
7 import datetime
8 import sqlalchemy
9 import pandas
10 from pyjstat import pyjstat
11 import os
12 import sys
13 import time
14 import requests
15 sys.path.append(os.path.dirname(os.path.dirname(os.path.dirname(os.getcwd())))) + "/_admin")
16 from admin import build_sql_engine
17
18 ## Load SQL engine
19 engine=build_sql_engine()
20
21 ## Trends Database
22 TABLE = 'TFA_All_TrendsMonth'
23
24 ## basic time information
25 year_now = datetime.datetime.now().year
26 month_now = datetime.datetime.now().month
27 year_start=1970
28 month_start=1
29
30 ## import data, source EuroStat
31 XLS_File="EuroStat_PPI_Pull.xlsx"
32 Worksheet="Eurostat"
33 Spreadsheet=pandas.read_excel(XLS_File,Worksheet)
34
35 ## trend information
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL
Python Debug Console
'BAJ', 'PR03'PRI011_8A0510001', '(Discontinued)Output (Major sector/Aggregated major commodity group)/ Petroleum and coal products(through April 2022)', 134.39, 'D&P', 2022, 'JP_BAJ_PR03'PRI011_8A0510001', ('2022-09-01', 'JP', '2023-06-13', 9, 'BAJ', 'PR01'PR
CG15_2200320001', 'Group/ Lumber & wood products', 179.388, 'D&P', 2022, 'JP_BAJ_PR01'PRCG15_2200320001')
2023-06-13 16:54:58,175 INFO sqlalchemy.engine.base.Engine INSERT INTO dbo.[TFA_All_TrendsMonth] (time, trend_country_id, date_pull, month, trend_source_id, trend_id, trend_name, value, value_source, year, trend_country_id_trend_source_id_trend_id) VALUES (?, ?
?, ?, ?, ?, ?, ?, ?, ?)
2023-06-13 16:54:58,178 INFO sqlalchemy.engine.base.Engine (('2022-09-01', 'JP', '2023-06-13', 9, 'BAJ', 'PR01'PRCG15_2201420001', 'Group/ Business oriented machinery', 104.85, 'D&P', 2022, 'JP_BAJ_PR01'PRCG15_2201420001'), ('2022-09-01', 'JP', '2023-06-13', 9,
'BAJ', 'PR03'PRI011_8A0410001', '(Discontinued)Output (Major sector/Aggregated major commodity group)/ Chemical products(through April 2022)', 110.436, 'D&P', 2022, 'JP_BAJ_PR03'PRI011_8A0410001'), ('2022-09-01', 'JP', '2023-06-13', 9, 'BAJ', 'PR03'PRI011_6002
10001', '(Discontinued)Input (Major sector)/ (Reference) Electrical machinery (2000 IOP1 Classification)(through April 2022)', 110.816, 'D&P', 2022, 'JP_BAJ_PR03'PRI011_600210001'), ('2022-09-01', 'JP', '2023-06-13', 9, 'BAJ', 'PR03'PRI011_600210001', '(Discont
inued)Input (Major sector)/ Textile products(through April 2022)', 128.357, 'D&P', 2022, 'JP_BAJ_PR03'PRI011_600210001'), ('2022-09-01', 'JP', '2023-06-13', 9, 'BAJ', 'PR03'PRI011_060310001', '(Discontinued)Input (Major sector)/ (Reference) Precision instrument
> (2005 IOP1 Classification)(through April 2022)', 111.337, 'D&P', 2022, 'JP_BAJ_PR03'PRI011_060310001'), ('2022-09-01', 'JP', '2023-06-13', 9, 'BAJ', 'PR01'PRCG15_2201820001', 'Group/ Transportation equipment', 102.385, 'D&P', 2022, 'JP_BAJ_PR01'PRCG15_2201820
001'), ('2022-09-01', 'JP', '2023-06-13', 9, 'BAJ', 'PR01'PRCG15_2201220001', 'Group/ General purpose machinery', 107.079, 'D&P', 2022, 'JP_BAJ_PR01'PRCG15_2201220001'), ('2022-09-01', 'JP', '2023-06-13', 9, 'BAJ', 'PR03'PRI011_601610001', '(Discontinued)Input
(Major sector)/ Information and communication electronics equipment(through April 2022)', 104.236, 'D&P', 2022, 'JP_BAJ_PR03'PRI011_601610001') ... displaying 10 of 766 total bound parameter sets ... ('2023-06-01', 'JP', '2023-06-13', 6, 'BAJ', 'PR03'PRI011_8
A0610001', '(Discontinued)Output (Major sector/Aggregated major commodity group)/ Plastic and rubber products(through April 2022)', 101.128, 'D&P', 2023, 'JP_BAJ_PR03'PRI011_8A0610001'), ('2023-06-01', 'JP', '2023-06-13', 6, 'BAJ', 'PR03'PRI011_8A0610001', '(Di
sccontinued)Output (Major sector/Aggregated major commodity group)/ Pulp paper and wooden products(through April 2022)', 130.587, 'D&P', 2023, 'JP_BAJ_PR03'PRI011_8A0610001')
2023-06-13 16:54:59,906 INFO sqlalchemy.engine.base.Engine COMMIT
2023-06-13 16:55:00,224 INFO sqlalchemy.engine.base.Engine SELECT [INFORMATION_SCHEMA].[TABLES].[TABLE_NAME]
FROM [INFORMATION_SCHEMA].[TABLES]
WHERE [INFORMATION_SCHEMA].[TABLES].[TABLE_SCHEMA] = CAST(? AS NVARCHAR(max)) AND [INFORMATION_SCHEMA].[TABLES].[TABLE_TYPE] = CAST(? AS NVARCHAR(max)) ORDER BY [INFORMATION_SCHEMA].[TABLES].[TABLE_NAME]
2023-06-13 16:55:00,226 INFO sqlalchemy.engine.base.Engine ('dbo', 'BASE TABLE')
PS C:\Users\matthew.donahue\Kroll\Fixed Asset Advisory Services (FAAS) Repository - Documents (1)\Database\TFA_All_TrendsMonth\data\Japan>
```

Bespoke Dashboards

Aggregation of Data & Powerful Visuals

Digital Reporting

- In addition to traditional formal PDF reports, we provide bespoke Microsoft PowerBI dashboards to track the results and progress of the Valuation program.
- The dashboard shows the summary of values, split between asset types, as well as the change in values over time.
- The dashboard is customisable and can also be used to monitor KPIs for the project.
- Data from the dashboard can be extracted to Excel.

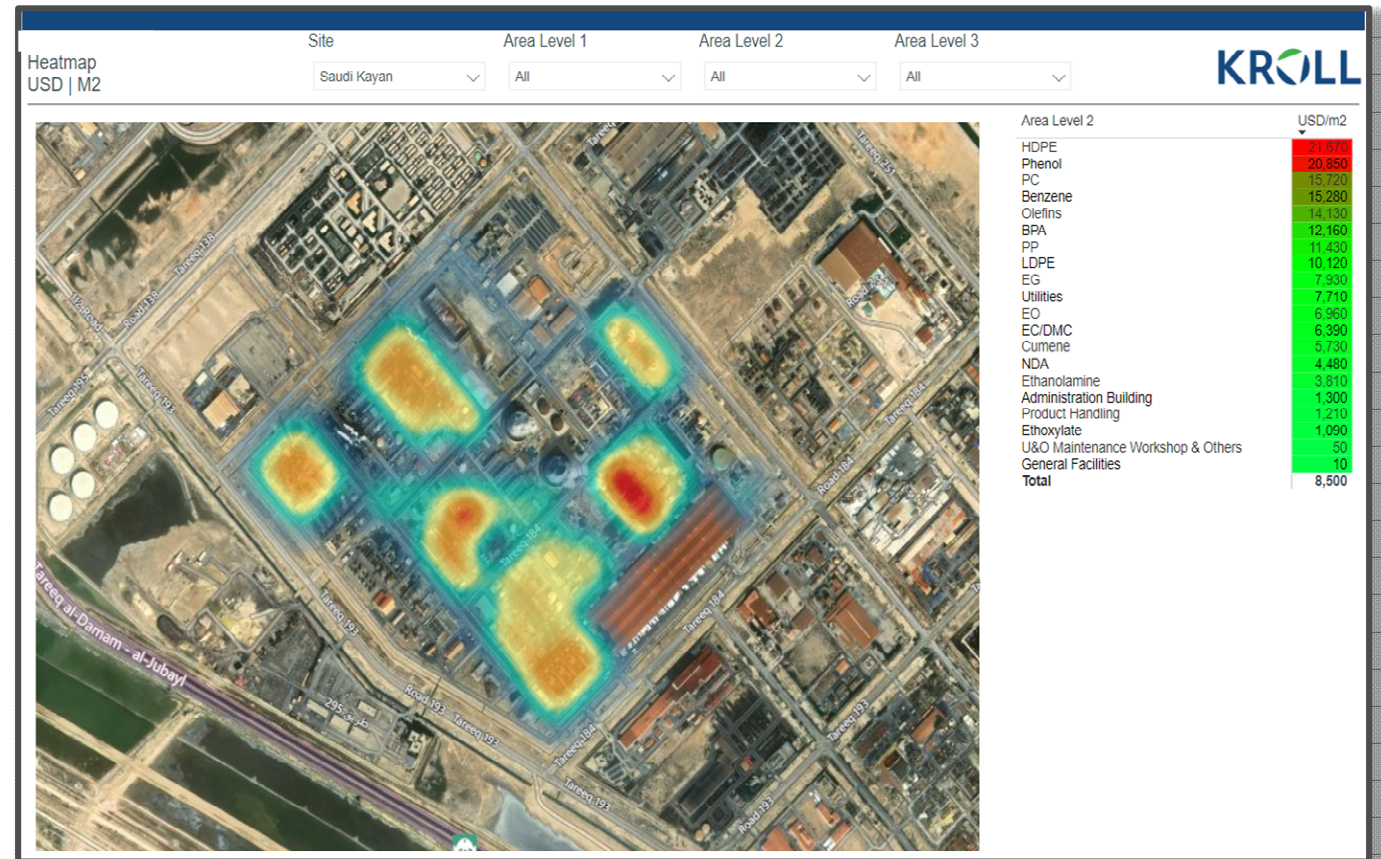


Heat Mapping

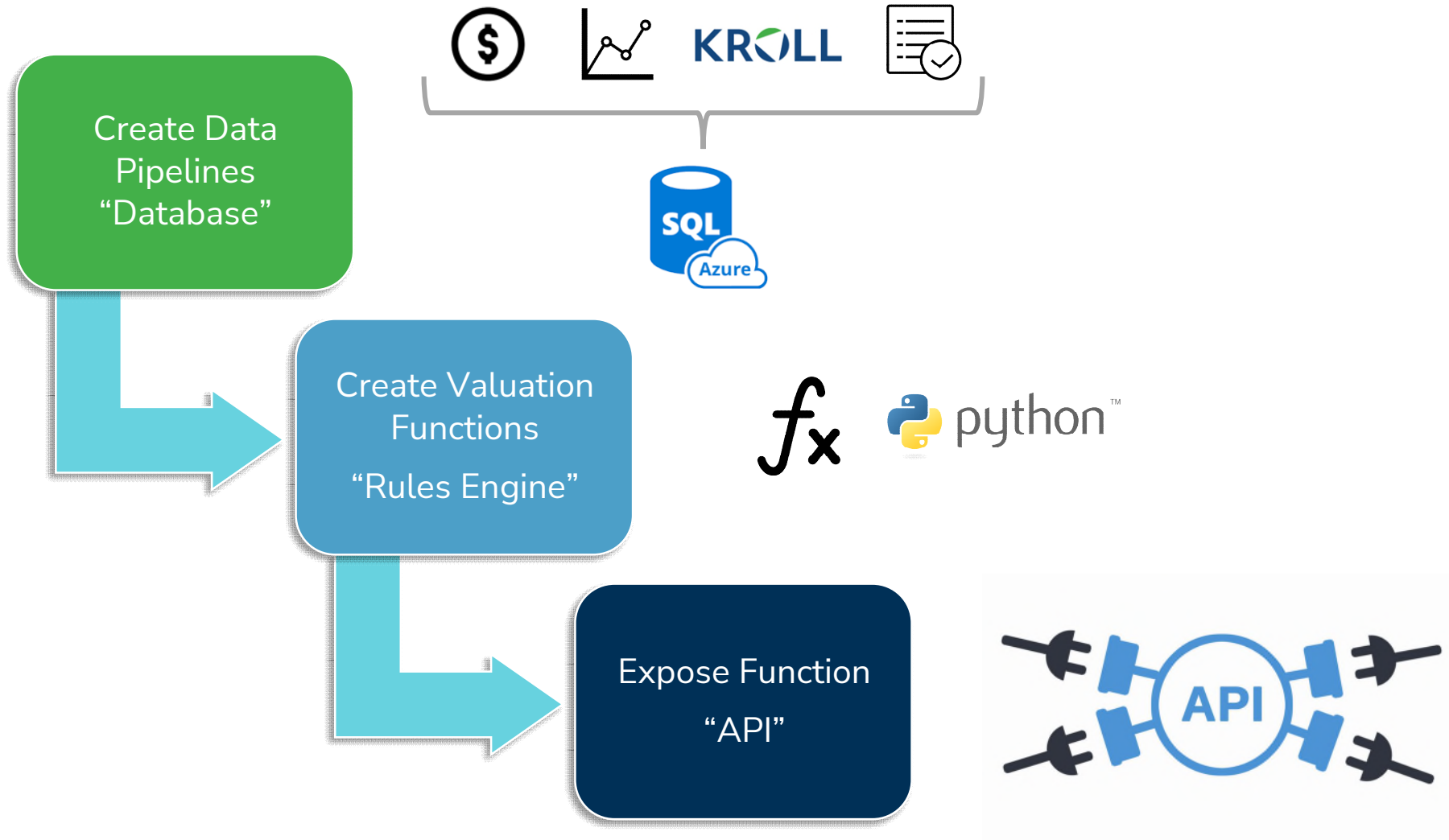
Visualizing Distribution & Concentration of Risk

Risk Heat Mapping Applications

- Combining replacement cost values with location and area details.
- Facilitate Estimated Maximum Loss (EML) calculations, whereby flood, fire, or **blast radius** from different risk scenarios can be directly translated into monetary damage
- Create value heatmaps to view and analyze **value concentrations**, targeting high/low risk areas within a production facility and identifying any anomalies to be explored further



Automation



**Building
replacement cost
drivers—what
factors have a
large impact when
determining
insurable value?**



What Factors Have a Large Impact When Determining Insurable Value?

- Site Name
- Building Name
- Street Address
- Year Built
- **ISO Classification**
- **Square Footage**
- Story Height
- Number of Floors
- **Perimeter**
- **Occupancy**
- Roof Material
- Exterior Wall Type
- Heating

- Cooling
- Plumbing
- Intrusion Alarm
- Fire Protection
- Elevators
- Basement
- Electric
- Quality
- Hillside Construction
- Additional Features
- Sprinkler System
- GPS Coordinates
- Roof Pitch

Indirect Construction Cost Drivers

Replacement costs should be similar, if not, why not?

✔▶ Buildings

- Historic vs Modern construction
- Architecturally significant vs plain-Jane
- High quality materials vs low cost/quality
- Large vs Small building
- Replacement vs Reconstruction cost basis

✔▶ Contents

- Mixed occupancy
- Occupancy density
- Change in occupancy
- Manufacturing/Warehouse/Office ratios
- Incorrectly classified

Cost Per Square Foot Comparison

✔▶ What's driving the increase in construction costs

- Elaborate design
- Green building features
 - Increased initial construction costs to save operational costs
- 21st century learning environments
 - Technology
- Security requirements
- Environmental issues
- Local zoning requirements
- More recent concerns:
 - Qualified labor shortages
 - Supply chain issues
 - Petroleum costs

✔▶ Cost mitigation measures

- Architectural prototypes
- Long term contracts with contractors and architects

**Compliance is the
key to the new
Fire Safety
Regulations 2022
(England)**



Fire Safety Building Regulations



Grenfell Tower Fire



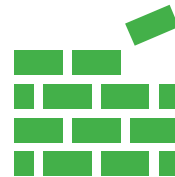
**Building Safety Act
(2022)**



**Buildings 11 floors or
18 meters high**



**Fire Safety Best
Practices**



Materials Standards

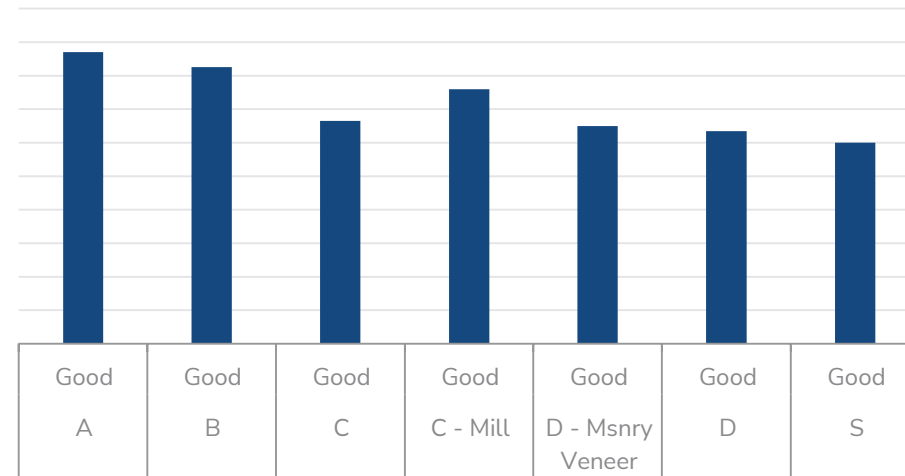


Increased Construction Costs

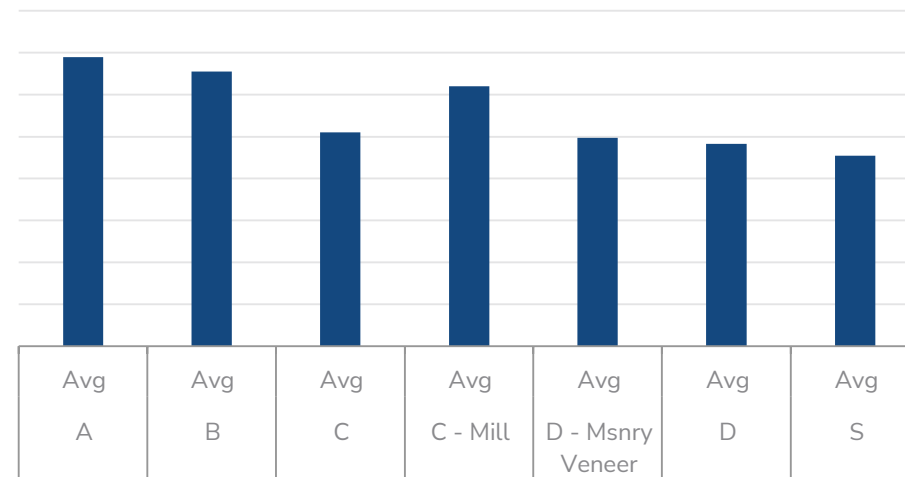
Cost by Class of Construction

- Class A**
 - Structural steel columns and beams, fireproofed with masonry, concrete, plaster or other **noncombustible material**.
 - ISO 5 (fire-protected steel)
- Class B**
 - Reinforced concrete columns and beams. **Fire-resistant construction**.
 - ISO 6 (solid concrete)
- Class C**
 - Masonry or concrete load-bearing walls with or without pilasters. Masonry, concrete or curtain walls with full or partial open steel, wood or concrete frame
 - ISO 2 and 4 (unprotected steel & joisted masonry)
- Class D**
 - Wood or steel studs in bearing wall, full or partial open wood or steel frame, primarily combustible construction
 - ISO 1 (wood frame/light gauge metal frame)
- Class S**
 - Metal bents, columns, girders, purlins and girts without fireproofing, **noncombustible construction**.
 - ISO 3 (prefab non-combustible)

Apartment (High-Rise) – Good: \$ / Sq Ft



Apartment (High-Rise) – Avg: \$ / Sq Ft



Example Apartment (High-Rise) Construction

\$195-\$225/SqFt

Combustible

\$200-\$275/SqFt

Noncombustible/Fire-resistant

~3% | ~20%

Difference in Construction Cost per Square Foot

**Visualize property
risks with a demo
of the Property
Insurance
Valuation
Platform**



Automated Valuation Engine



Data Collection

FAAS platform enables property data collection through user friendly UI

- Occupancy
- Sum Insured
- Address



Automated Valuations Engine

The FAAS Valuation Engine performs quick and credible automated valuations on the property data



Replacement Cost Estimates

Replacement cost are provided in form of reports using cutting edge technology with enhanced visual representations of the data

- Valuation Reports
- Adequacy assessment
- Portfolio Analysis

Portfolio Reviews

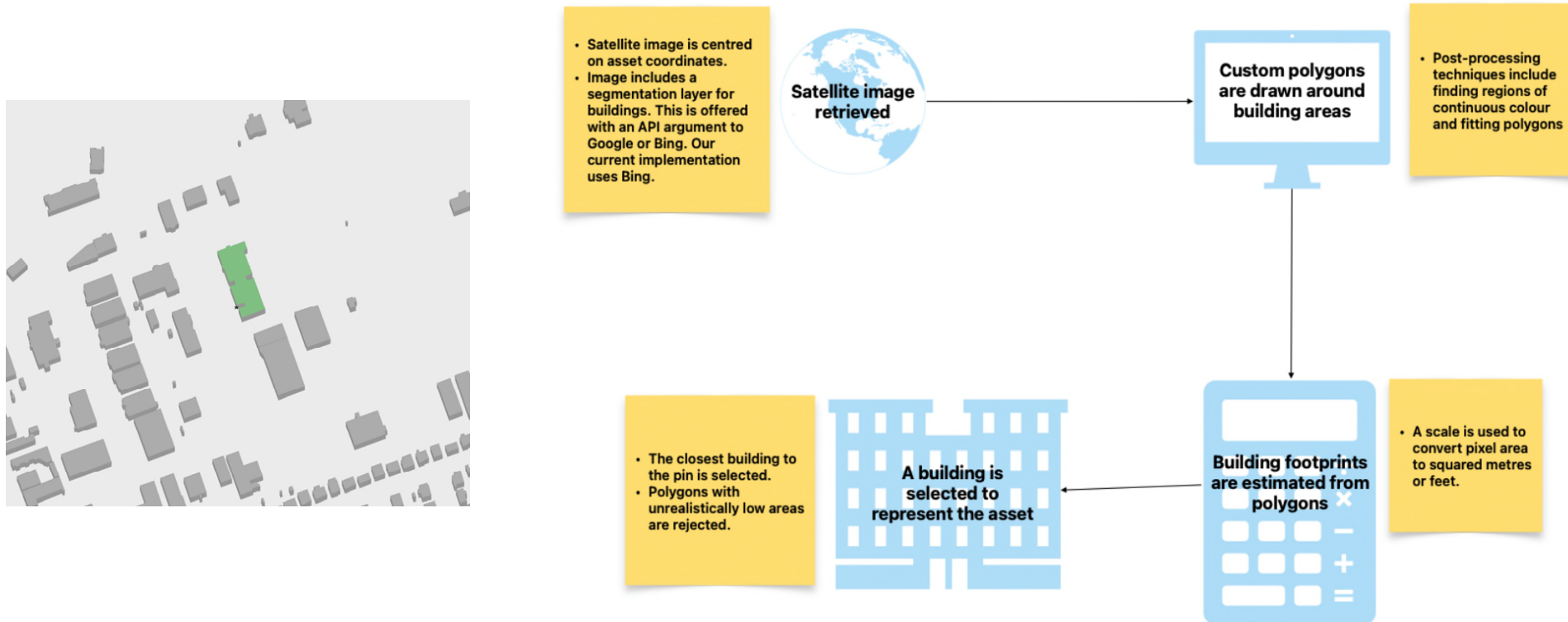
Online valuation and risk benchmarking (adequacy assessments)

- Statistical analysis is performed on the unit costs of comparable assets across a portfolio to define a lower and upper range of values.
- We then utilize Kroll's internal database of construction costs to determine an indicative value, which is compared to existing client values. Results are displayed using a flag-based system:
 - ✓ Green flags indicate that the declared value is appropriate.
 - ✓ Orange flags indicate value is outside the range but acceptable.
 - ✓ Red flags indicate a potential risk.



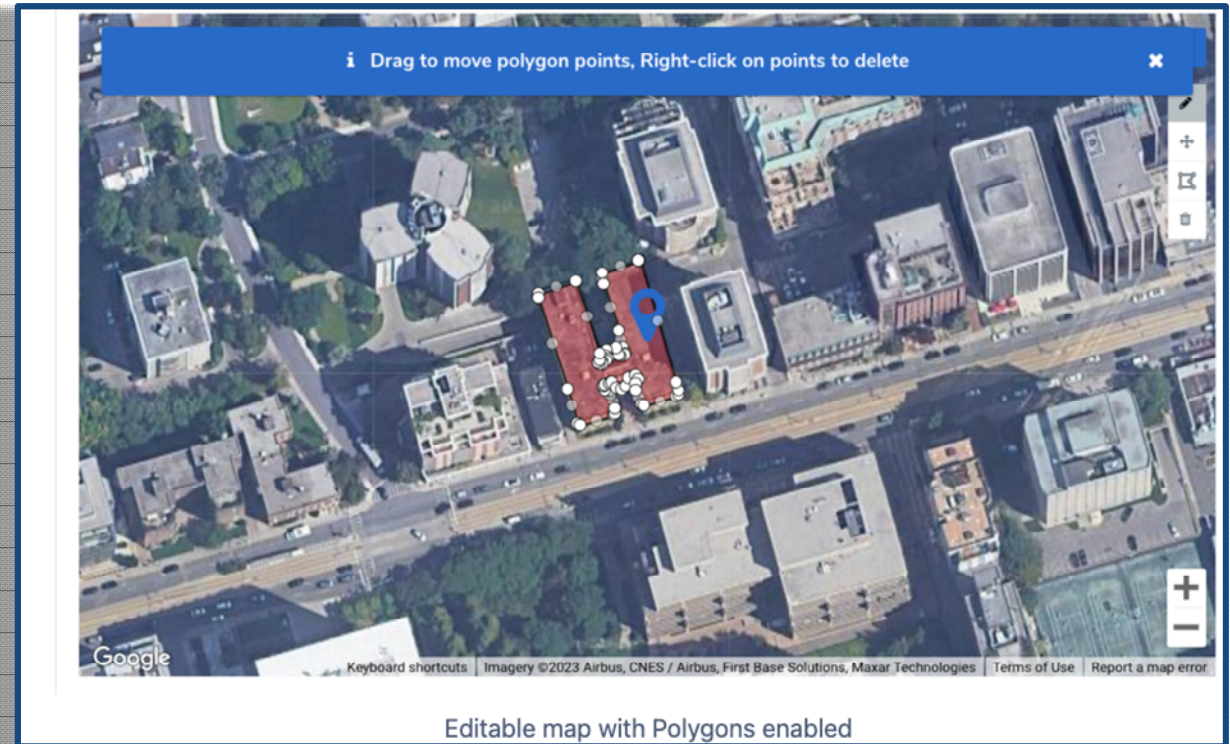
Satellite Imagery Analysis

- **Challenge faced:** Can we value a real estate portfolio, based on addresses?
- **Solution needed:** A way to remotely find and measure buildings in a time and cost-effective way

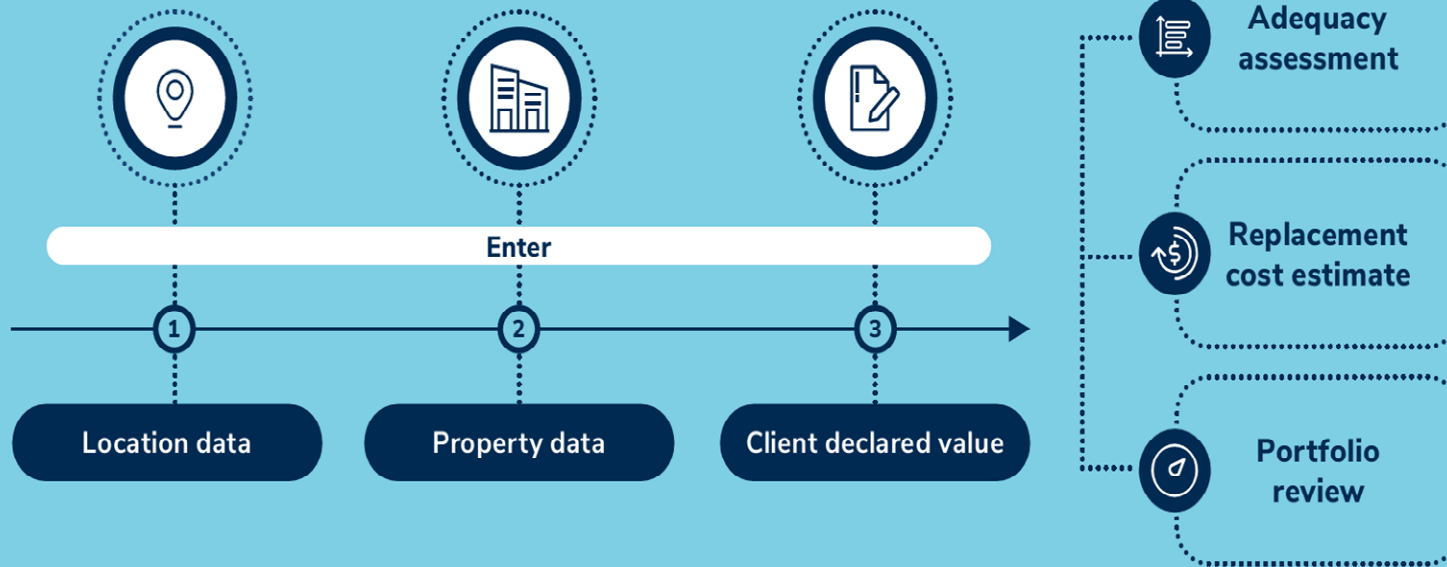


Satellite Imagery Analysis

- The Satellite Imagery feature draws polygons on each building in a client's portfolio and collects its footprint. Clients can then access and adjust the results based on their requirements.
- Instantly calculates building footprints for accurate risk assessment of global portfolios.



● Get Valuations in 3 Steps



Platform Demo

Questions



Thank You

Learn More About Kroll

Why KROLL?

Unique insights, data and technology providing foresight clients need to create an enduring competitive advantage

Stay Ahead with KROLL



Expert Led Insights

World-class experts with demonstrated success of **helping clients stay ahead of opportunities and threats** and navigate mission-critical, complex challenges



Proprietary Data Intelligence

Digitizing our advisory insights from across our business to create **unique, valuable and actionable intelligence**, investment and reporting offerings



Cohesive Tech-Enhanced Platform

Purpose-built modular tools for key buyer types **presented on an integrated basis**, embedded with our expertise, insights and data intelligence



Values-Driven

Instilling **excellence, ambition, courage and inclusion** throughout the organization and collaborating as **One Team, One Kroll to deliver, innovate and grow together**



Trusted Brand

Nearly **100-year history** of relentless client focus, innovation and excellence in **risk, governance, transactions and valuation**



Compelling Breadth of Global Capabilities

Global capabilities, delivered as **integrated, jointly-sold solutions**, driving value creation and protection in the most critical areas of need

Valuation Advisory Services

Financial Reporting	Tax	Alternative Asset Advisory	Real Estate Services	Fixed Asset Advisory Services
<ul style="list-style-type: none"> Purchase Price Allocation Goodwill and Asset Impairment Intellectual Property Valuation Fresh Start Accounting Derivative Valuation and Share-Based Compensation Business Valuation Strategic Value Advisory 	<ul style="list-style-type: none"> Tax Valuation Transfer Pricing Legal Entity Valuation Purchase Price Allocation Estate and Gift Tax Interest Expense Allocation Property Tax Consulting Sales and Use Tax Services Site Selection and Incentives Advisory 	<ul style="list-style-type: none"> Portfolio Valuation Valuation Policy and Procedures Consulting Fund Manager Valuations Created Value Attribution Secondary Transfers Valuation of Illiquid and Complex Securities Derivatives and Structured Credit Products Valuation Private Equity and Credit Valuation Portal 	<ul style="list-style-type: none"> Real Estate Valuation and Consulting Real Estate Financing Valuations Hospitality Advisory Services Right of Way Appraisal Cost Segregation Real Estate Investment Advisory Real Estate Transaction Advisory Property Asset Management and Optimization 	<ul style="list-style-type: none"> Insurance Valuation Services Property Insurance Valuation Platform Machinery and Equipment Valuation Fixed Asset Management

Our Evolution

Trusted Partner for Nearly 100 Years

Serving clients in 140 markets
across nearly every industry
and sector

STORIED BRAND 1932-2004

- Duff & Phelps founded as investment research firm

NEW FIRM, EXPANDING CAPABILITIES 2005-2020

- Started as valuation and corporate finance advisor
- Rapid growth into other governance, risk, compliance and complementary solutions
- Acquired 30+ businesses, including Kroll

ONE TEAM, ONE KROLL 2021-present

- Duff & Phelps rebrands as Kroll and completes brand unification
- Acquired Crisp and Resolver risk companies
- Acquired AVC Ltd. to create dedicated energy team within FAAS practice
- Talent Acquisition of the BFI Team to strengthen and expand valuation services in the Netherlands

Our Values

Our six values are at the core of who we are and how we interact with our people, clients and partners at work and within every community we serve.

Excellence

Excellence is a mindset – we do challenging work and pursue extraordinary results. We relentlessly focus on excellence – for our clients and colleagues.

Ambition

We are energized to learn, to teach, to grow. We constantly seek to do better – comfort and excellence rarely co-exist.

Courage

We make bold decisions, not just the easy ones. We find, reveal and tell the truth. Integrity is the foundation of everything we do.

Inclusion

We embrace and cultivate diversity – we respect, include and value one another. We support and care about the communities where we live and work.

Innovation

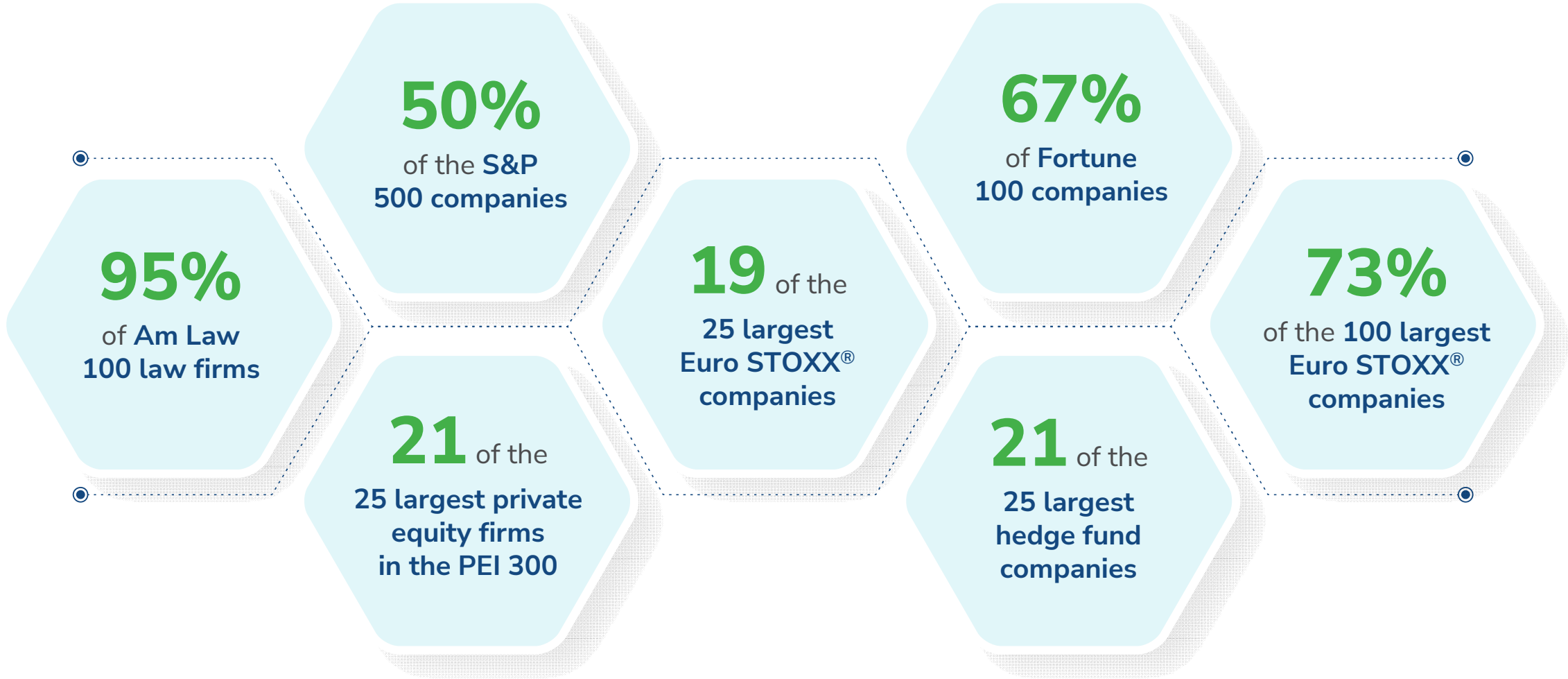
We challenge ourselves to discover new ways to create value. We harness the power of smart data with technology to enable faster decisions and always anticipate what's next for our clients.

One Team, One Kroll

We are stronger together – always focused on solutions, not silos. We collaborate across borders and disciplines in pursuit of excellence.



Our Market Presence



Our Awards and Rankings

Financial Advisory Recognition

REFINITIV 
Refinitiv Global M&A Review 2022
Ranked #1
for Global Announced Fairness Opinions for Full Year 2022¹
¹Based on 51 Credited Deals per Refinitiv's Global Mergers & Acquisitions Review Full Year 2022

 **privateequitywire**
Private Equity Wire US Awards 2022
Kroll Wins Best Regulatory and Compliance Firm of the Year


Forensic Accountants 2022
LEXOLOGY Client Choice Awards 2022 - Exclusive Winner of Forensic Accountants

 **TURNAROUND, RESTRUCTURING AND INSOLVENCY**
Turnaround, Restructuring & Insolvency Awards 2021
Winner - Turnaround Firm of the Year

with.
Intelligence
Best Valuations Firm
HFM European Services Awards 2023

Our Awards and Rankings

Risk Advisory Recognition



Who's Who Legal (WWL) 2022
Experts recognized in WWL Asset Recovery, Construction – Quantum Delay & Technical, Forensic Accountants Quantum of Damages



Global Arbitration Review's GAR 100 Expert Witness Firms Power Index - 2022
Ranked fifth on the annual list of top expert firms globally.



Global Investigations Review (GIR) 100 2021
Named as one of the top 100 cross-border investigations practices



Forrester Wave™ 2022
Kroll named a Strong Performer in the Forrester Wave™ Cybersecurity Incident Response Services Q1 2022



IAM Patent 1000 2023
Recommended firm for Expert Witnesses



SC Awards Europe 2022
Winner - Managed Detection and Response Solution
Finalist - Best Incident Response Solution



IDC MarketScape 2021
Named a Global Leader in Incident Response Readiness



G2 Awards 2022
G2 Best Support 2022



ISC West Award Winner
Best in Threat/Risk Management Software Application

Our Locations

6,500 professionals worldwide continuing the firm’s nearly 100-year history of trusted expertise. Across 34 countries and territories worldwide



○ The Americas

- Atlanta
- Austin
- Bermuda
- Bogota
- Buenos Aires
- Boston
- Chicago
- Dallas
- Ellensburg
- Houston
- Los Angeles
- Mexico City
- Morristown
- Nashville
- New York
- Philadelphia
- Richardson
- San Francisco
- Sao Paulo
- Seattle
- Secaucus
- Silicon Valley
- Toronto
- Washington, D.C.
- Waterbury

○ Caribbean

- British Virgin Islands
- Cayman Islands

○ Europe, Middle East and Africa

- Abu Dhabi
- Agrate Brianza
- Amsterdam
- Barcelona
- Berlin
- Bilbao
- Birmingham
- Brussels
- Dubai
- Dublin
- Frankfurt
- Gibraltar
- Guernsey
- Jersey
- Johannesburg
- Lisbon
- London
- Luxembourg
- Madrid
- Manchester
- Milan
- Munich
- Padua
- Paris
- Pesaro
- Riyadh
- Rome
- Turin
- Zurich

○ Asia Pacific

- Bangalore
- Beijing
- Guangzhou
- Hanoi
- Hong Kong
- Hyderabad
- Jakarta
- Kuala Lumpur
- Manila
- Mumbai
- New Delhi
- Shanghai
- Shenzhen
- Singapore
- Sydney
- Taipei
- Tokyo



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About Kroll

As the leading independent provider of risk and financial advisory solutions, Kroll leverages our unique insights, data and technology to help clients stay ahead of complex demands. Kroll's global team continues the firm's nearly 100-year history of trusted expertise spanning risk, governance, transactions and valuation. Our advanced solutions and intelligence provide clients the foresight they need to create an enduring competitive advantage. At Kroll, our values define who we are and how we partner with clients and communities. Learn more at www.kroll.com.

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