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Forrester

Supply Chain Visibility and ESG convergence – Transforming Crisis into Innovation in the New Era of SCRM

BOLD AT WORK

Where does the global redesign of supply chains, led by risk management drivers, lead to innovation in critical sectors?

How did we get here?

"All Firms Will Experience Systemic Risks As One Of Four Shocks"

The four shocks:

1) Systemic risk

2) Robots and automation

3) Employee (workforce) data

4) Employee power

Your workforce vision, strategy, and execution

The shocks penetrate your organization and change the:

Who

What

Where
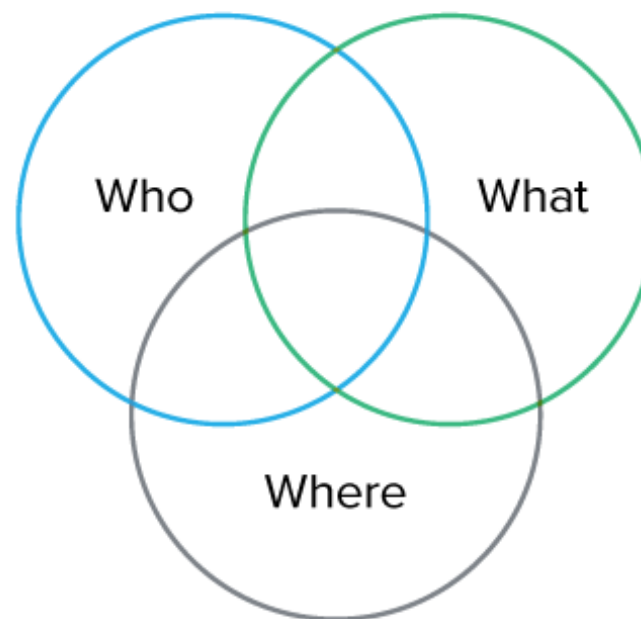
of how companies work.

What is systemic risk?

"A risk that is based on externalities but is highly connected and interdependent with enterprise risks. Systemic risk events will cause a cascade of adjacent industry failures or a breakdown of a system rather than an impact to an aspect of a system. Because of the effects of these events, a failure to properly respond to them will represent a relevant impact to customers and shareholders."
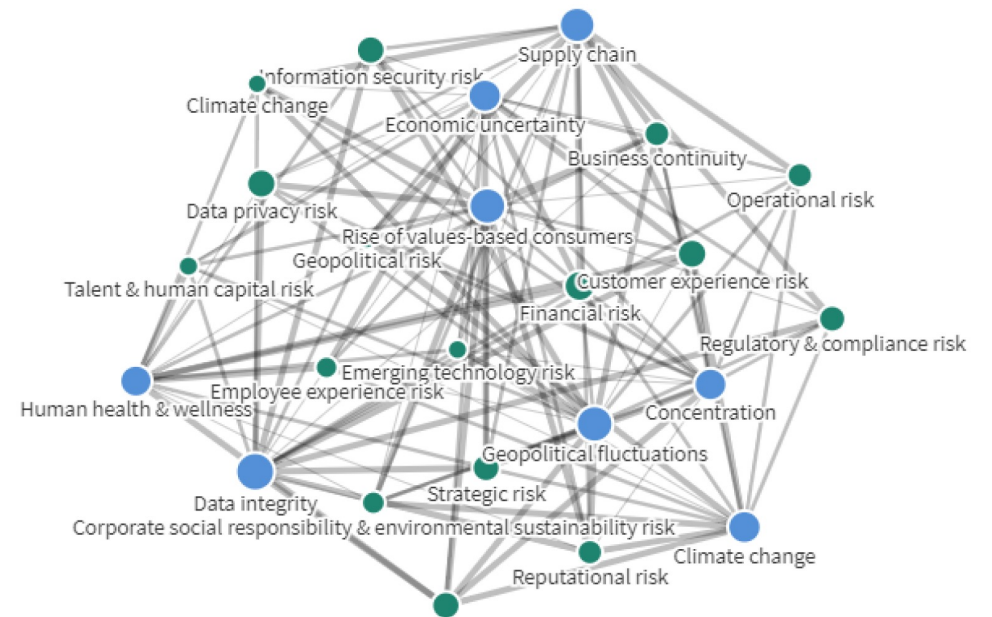
Interconnectivity

Systemic Risks Are Interconnected To Enterprise Risks

The Top Systemic Risks, 2021

Interconnected Risk Map, 2021

● Enterprise risk
● Systemic risk

Supply chain
Information security risk
Climate change
Economic uncertainty
Business continuity
Data privacy risk
Operational risk
Rise of values-based consumers
Geopolitical risk
Customer experience risk
Talent & human capital risk
Financial risk
Regulatory & compliance risk
Emerging technology risk
Human health & wellness
Employee experience risk
Concentration
Geopolitical fluctuations
Data integrity
Strategic risk
Corporate social responsibility & environmental sustainability risk
Climate change
Reputational risk

Note: Line weightings represent the level of associated risk: low, medium, or high. Bubble sizes represent the level of criticality of each type of risk. Base: 3,890 global security decision-makers
Source: Forrester Research, Inc. Unauthorized reproduction, citation, or distribution prohibited.

Concentration Risk

The Rise of the Values Based Customer Risk

Geopolitical Risk

Where can organizations reap benefits beyond cost reduction and risk mitigation to drive innovation, opportunities and competitive advantage?

Climate Crisis Risk

What critical legislation and rulemaking is driving multi-tier supply chain mapping and will impact how industry manages supply chains?

Supply Chain Risk

How can technology help organizations to improve visibility, efficiency and compliance, ultimately to re-architect their supply chains?

Brandon Daniels

CEO
Exiger

UFLPA

- **The Uyghur Forced Labor Prevention Act (UFLPA) restricts certain Chinese imports:** The new law is expected to affect thousands of importers nationwide — including many suppliers that you may be working with in the defense industrial base and other critical infrastructure sectors

- **The UFLPA is a new act focused on protecting an ethnic minority group called Uyghurs:** Uyghurs are an Islamic minority with a distinct cultural heritage, diet and language. Uyghurs primarily reside in the Xinjiang Uyghur Autonomous Region (XUAR)

- **Xinjiang Production and Construction Corps (XPCC) maintains an iron grip over the region leading to ethical, economic and security concerns for the US:** According to the US Department of the Treasury, "XPCC is a paramilitary organization in the XUAR that is subordinate to the Chinese Communist Party (CCP). The XPCC enhances internal control over the region by advancing China's vision of economic development in XUAR that emphasizes subordination to central planning and resource extraction."

- **Every US company that relies on imported goods is impacted by UFLPA:** However, it's likely that those relationships with the Xinjiang region and / or Uyghur forced labor are not direct suppliers and may be three or four layers down in your supply chain

The UFLPA Rebuttable Presumption

UYGHUR FORCED LABOR PREVENTION ACT

U.S. CUSTOMS AND BORDER PROTECTION OPERATIONAL GUIDANCE FOR IMPORTERS

June 13, 2022

"It establishes a rebuttable presumption that the importation of any goods, wares, articles, and merchandise mined, produced, or manufactured wholly or in part in the Xinjiang Uyghur Autonomous Region of the People's Republic of China, or produced by certain entities, is prohibited by Section 307 of the Tariff Act of 1930 and that such goods, wares, articles, and merchandise are not entitled to entry to the United States. The presumption applies unless the Commissioner of U.S. Customs and Border Protection (CBP) determines that the importer of record has complied with specified conditions and, by clear and convincing evidence, that the goods, wares, articles, or merchandise were not produced using forced labor."

"CBP will employ a risk-based approach, dynamic in nature, that prioritizes the highest-risk goods based on current data and intelligence. Currently the highest-risk goods include those imported directly from the Xinjiang Uyghur Autonomous Region, or Xinjiang, into the United States and from entities on the UFLPA Entity List. CBP will also prioritize illegally transshipped goods with inputs from Xinjiang, as well as goods imported into the United States by entities that, although not located in Xinjiang, are related to an entity in Xinjiang (whether as a parent, subsidiary, or affiliate) and likely to contain inputs from that region."

UFLPA

- **UFLPA demands companies to extensively scrutinize their supply chain** to make sure that none of the materials used to make their products are sourced or made from within the prohibited region

- **Any company procuring products will be required to have comprehensive supply chain due diligence documentation demonstrating compliance with the Forced Labor Enforcement Task Force (FLETF):** This could create significant operational delays, but also could lead to intentional obfuscation of goods sourced by Chinese companies, leading to greater industrial sabotage, espionage and disruption risks

- **Penalties for violating the law have not yet been made publicly available:** However, enforcement is expected to be significant, including heavy fines and potentially criminal consequences

- **It has been confirmed that any importers who are found to be in breach of the act by customers will be submitted to congress and the information made available to the public within 30 days**

- **According to Department of Homeland Security (DHS), the UFLPA specifically identifies cotton, tomatoes, and polysilicon as high-priority sectors**

- **There is a list of entities published by DHS called the UFLPA Entity List**

National Security Implications

What national security risks does Uyghur Forced Labor present to the USG supply chain?

Chinese Police Oversight

- Uyghur laborers reportedly have Chinese People's Police members accompanying them
- Government leaders involved in Uyghur forced labor campaign are strongly aligned with the Chinese political and security apparatus and deliberately executing state policy

Possible Physical Compromise
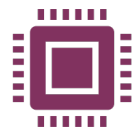
- Physical access by Chinese police and possibly intelligence groups provides opportunity for physical compromise of components
- Could also provide opportunity for software compromise of components

Possible Direct Chinese Government Ownership

- Xinjiang Production and Construction Corps ("XPCC") allegedly owns hundreds of factories using Uyghur forced labor
- XPCC is a sanctioned paramilitary group that is subordinate to the Chinese Communist Party

Modern Slavery Regulation Mushrooms

- In the footsteps of UFLPA, The European Commission released its legislative proposal to prohibit the sale of goods that were produced using forced labor on September 14th, 2022. The proposed regulations are far-reaching and would be applicable to both imported products and items manufactured within the European Union. Between the EU and Democracy 10, it is anticipated that the increased regulations in modern slavery will have a substantial impact on how businesses approach doing due diligence and managing their supply chains

- According to a report from the German government less than 20% of midsize and large businesses are conducting enough due diligence on their supply networks manage ESG risk. In accordance with the German Supply Chain Due Diligence Act, which will go into effect on January 1, 2023, corporations will be held liable for the activities of all their supply chain partners

- Businesses in Germany with more than 3,000 employees will need to comply with the law starting in January 2023. The requirement will apply to 1,000 workers on January 1, 2024

- "Three years after the enactment of the Modern Slavery Act 2018 (Cth) (Act), the Australian Government has released an Issues Paper for public consultation. It seeks to identify the effectiveness of the Act since its inception and identify key actions for the Act's future form." *

Interconnected Supply Chains and Risk

THE ALARM

On June 9, 2021, at about noon local time, Chinese government officials reported a fire and subsequent explosion occurred at a silicone packaging workshop in China's Xinjiang autonomous region.

The facility was part of a Hoshine Silicon manufacturing plant in the Shihezi Economic and Technological Development Zone.

Hoshine Silicon Industry Co Ltd. is a producer of silicon-based materials that were a part of significant market consolidation among polysilicon manufacturers in China and was a critical supplier to many of the top semiconductor and solar panel companies globally. The publicly-traded company was founded in 2005 and has 8,893 employees.

The explosion was widely reported – but there was conjecture that the disruption of polysilicon in the semiconductor sector could be significant; already subject to substantial supply shortages, this was a serious concern.

THE INVESTIGATION

Exiger's analytics exposed that Hoshine accounted for over 70% of China's silica production. Also, in 2021 China accounted for approximately 70% of the global silica output. This analysis led to estimates of Hoshine's silica global market share being north of 45%.

HOSHINE SILICON INDUSTRY COMPANY OPERATES FROM PLANTS IN CHINA'S FROM PLANTS IN XINJIANG REGION.

THE IMPACT

With Exiger's alert, our customers were able to flag the industrial disaster and ensure they understood the immediate context for their operations. In traditional systems, the alert would have been related to the explosion and our customers would have had to then investigate the issue in-depth. The additional real-time analysis of the global supply dependency provided users crisis severity detail and immediate actionable Insight.
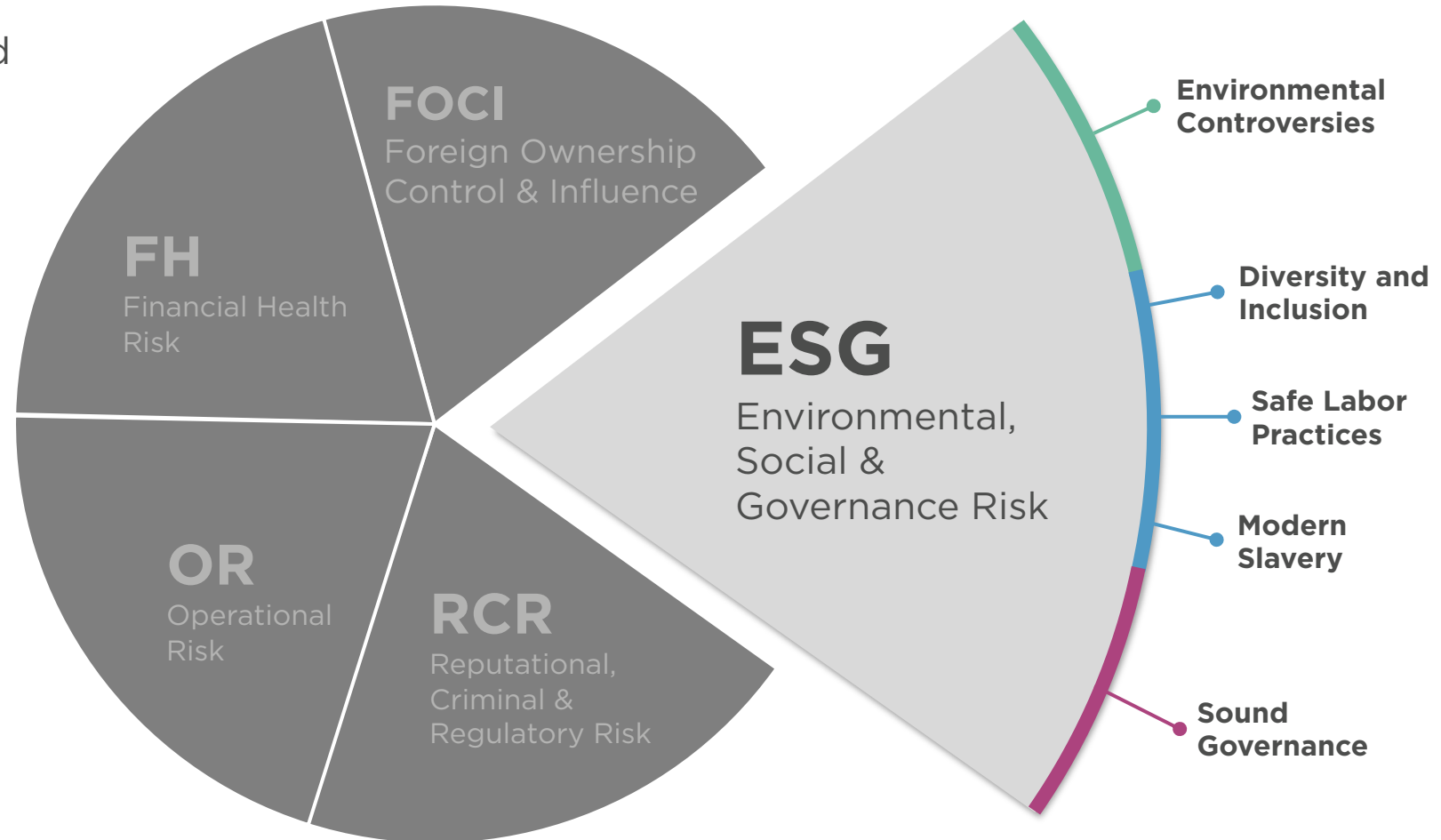
PROACTIVE INSIGHT

Six months later, The Uyghur Forced Labor Prevention Act (UFLPA) was signed into law by President Biden on December 23, 2021. With this supply chain mapping previously complete, Exiger's customers were able to proactively assess the impact of its June 2022 implementation.

ESG: Expanding the Aperture of Risk

As regulation and commitments around ESG performance grow, ESG risk is becoming a critical part of investment strategies and business partnerships.

FOCI
Foreign Ownership Control & Influence

FH
Financial Health Risk

OR
Operational Risk

RCR
Reputational, Criminal & Regulatory Risk

ESG
Environmental, Social & Governance Risk

Environmental Controversies

Diversity and Inclusion

Safe Labor Practices

Modern Slavery

Sound Governance

ESG Builds Resiliency

ESG is not only about identifying risk, but also about value creation. Entities with strong ESG performance tend to perform better financially and operationally.

We understand that quantifying ESG can have an upside, too.

Environmental

Managing a changing climate and mitigating climate risk

Social

Creating a positive impact for communities and employees

Governance

Reinforcing transparency, stakeholder engagement and best practices

DDIQ identifies entities with environmental violations or poor environmental records, while **also** recognizing companies that seek to minimize environmental impact

DDIQ flags safety violations, labor issues, layoffs and product issues, while **also** recognizing companies' diversity efforts and positive community impact

DDIQ recognizes business with high-risk countries, overly-complex and obfuscating ownership structures and financial crime violations, while **also** identifying ethical supply chains and strong information security

ESG Data Points

ESG Risk Assessment Criteria

The data-driven risk analysis screens for the component elements of environmental, social and governance risk.

E

Environmental

- The risk analysis considers the risk indicators related to:
  - Environmental controversies and adverse media
  - Jurisdictional risk (Environmental Performance Index)
  - Environmental regulatory violations
  - Environmental risk industry
  - Environmental resiliency and certification
  - Environmental initiatives on website or media

S

Social

- The risk analysis considers the risk indicators related to:
  - Jurisdictional risk (Social Risk Index)
  - Fair customer treatment
  - Data privacy
  - Discrimination
  - Safe workplace
  - Diversity Certifications
  - Workers rights
  - Product safety
  - Human rights
  - Modern slavery and human trafficking
  - Financial crime
  - Company social initiatives in media

G

Governance

- The risk analysis considers the risk indicators related to:
  - Jurisdictional risk (High corruption risk score or Sanctions)
  - Information security
  - Compliance with regulations
  - Fair taxes
  - Business with high-risk countries
  - Supply chain oversight

Underlying Data & Technology

Exiger ESG Risk Screening Solution

DDIQ Analytics provides an overarching view of risk to inform risk-mitigating actions and third-party uplift prioritization. DDIQ Analytics delivers a dynamic single view of third-party risk utilizing a proprietary aggregated blend of internal and external data sets.

DDIQ

Open Web Media

Curated Media

Corporate Registries

Watchlist Providers
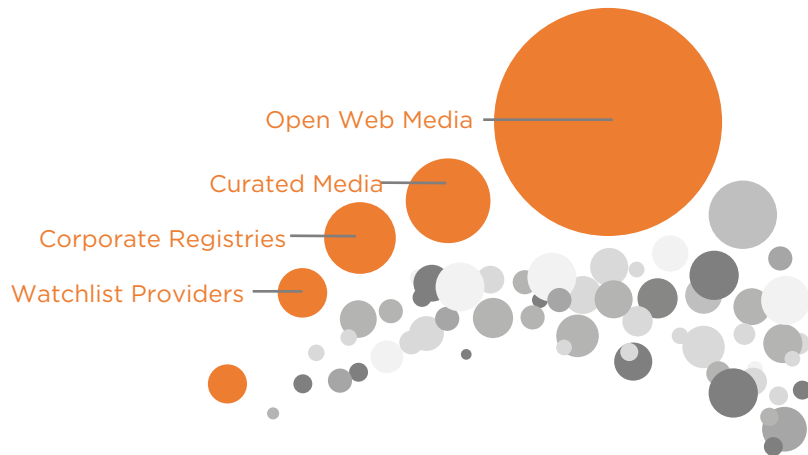
The inclusion of external data arms our clients with the ability to accurately identify and classify risk from a wider data set than would otherwise be possible using internal data or manual research procedures alone. Once armed with this information our clients can move to execute risk mitigating actions.
External data is delivered by DDIQ, Exiger's award-winning artificial intelligence platform, and processed through Exiger's risk model. The data sets are comprised of structured watchlist, news outlets and corporate registry data alongside unstructured adverse media content in order to increase coverage.
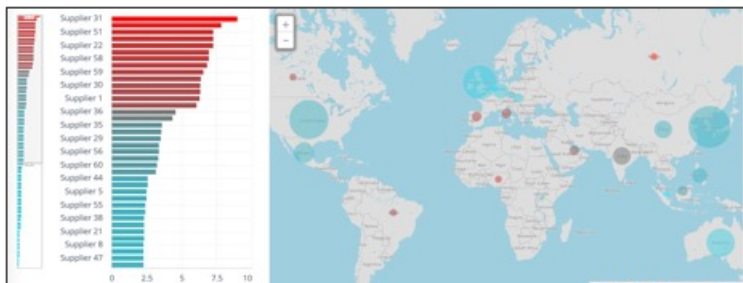
DDIQ | Analytics

DDIQ Analytics allows Analysts to see the vast data identified by DDIQ through key visualization widgets to digest the pertinent information quickly. After DDIQ identifies and classifies the risk indicators the information is processed through Exiger's Risk IQ model to provide an assessment and actionable intelligence of the risk to provide a portfolio view of which entity requires more analysis or remedial actions.

Data Capture & Classification

DDIQ's award winning artificial intelligence is used globally by financial institutions to deliver next generation continuous data capture, classification and management capabilities to support our clients in rapid risk mitigation. DDIQ's Natural Language Processing & Natural Language Understanding features allow it to assess and adjudicate content with the same understanding and competence as a bank compliance or ESG analyst without the human based resource constraints.

Data

1 | DDIQ performs an information extraction process to identify facts and attributes related to the subject of the search from unstructured adverse media content.

DDIQ Named-Entity Recognition

Company ESG Risk Indicator Country Region
High Risk Industry Risk Indicator Nationality
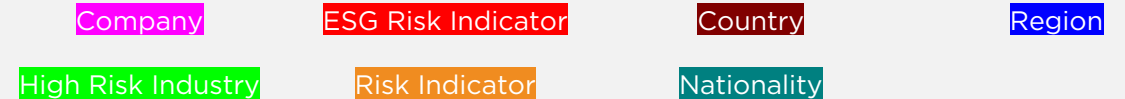
Confidence in Company Identification

2 | This data is then processed through DDIQ's Content Digestion Pipeline in order to determine the likelihood that the subject identified in the structured and unstructured data is truly the subject of the search. The probability of a match generates a numerical association score which can be used for further tuning and model improvement over time increasing efficiency.

Ultimatum to Malaysian Palm Oil Giant

European NGOs lodged a complaint against IOI because of the group's involvement in illegal logging, the non-respect of a court decision on native customary rights and the wanton destruction of tropical rainforests with a high conservation value in Sarawak (Malaysia) and Ketapang (Indonesia) on Borneo. The Malaysian oil palm group has been given 28 days "to come up with an acceptable solution".

0.86
Association Score

Confidence in Relevance of information

3 | DDIQ then performs a second pass using the information extracted from the structured and unstructured data, and performs event and risk classification assessment using NLU to determine the type of risk identified and the relevance of the risk in relation to the subject of the search to reduce false positives.

DDIQ Syntax Analysis

European NGOs lodged a complaint against IOI

0.84
Relevance Score

Exiger Risk Model Funnel Process

All Entities

Risk Model

Contextual Mitigation

Some Flagged Entities

Risk Review

ESG Flagged Entities

Flagged Entities for ESG Decisioning

Risk Model Review of Entities

The automated Risk Model is the first step in the identification of entities that require ESG risk adjudication, mitigation or acceptance. The primary function of the risk model is to complete a thorough ESG risk review of all entities utilizing a comprehensive open-source data footprint and "clear" entities that do not demonstrate indicia of ESG risk and remove false positives.

Supplier Risk Context Assessment

Escalate or disposition the ESG risk in the population based upon supplier risk mitigation factors (reliance on vendor, vendor use case, jurisdictional compartmentalization, safeguards, etc.)

Escalate and Document Risk Decision

Complete a manual, analyst-driven, final review of the entities and document the final risk decision. The entities with significant ESG risk attached should be minimal from the full population.

ESG - Risk Assessment

Environmental risk data can be rendered in the DDIQ Analytics, that includes dashboards either alongside the third-party risk scores (Financial, Foreign Ownership Control and Influence, Operational or Regulatory, Criminal and Reputational risks) or as a standalone dashboard to facilitate user interaction and risk management processes. Below are illustrative screenshots showcasing risk scoring.

ESG

9

Exiger ESG Risk Screening Solution

Celestica Group Environment Risk for All DDIQ-Discovered Locations (Yale Environmental Index)

Accton Group Environment Risk for All DDIQ-Discovered Locations (DDIQ Environmental Jurisdiction Risk)
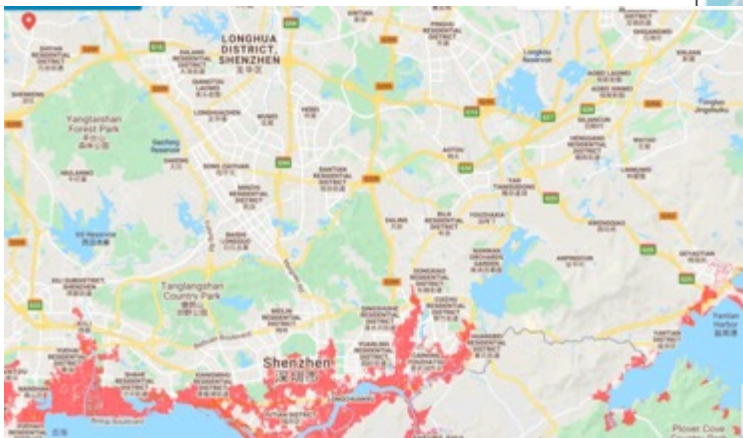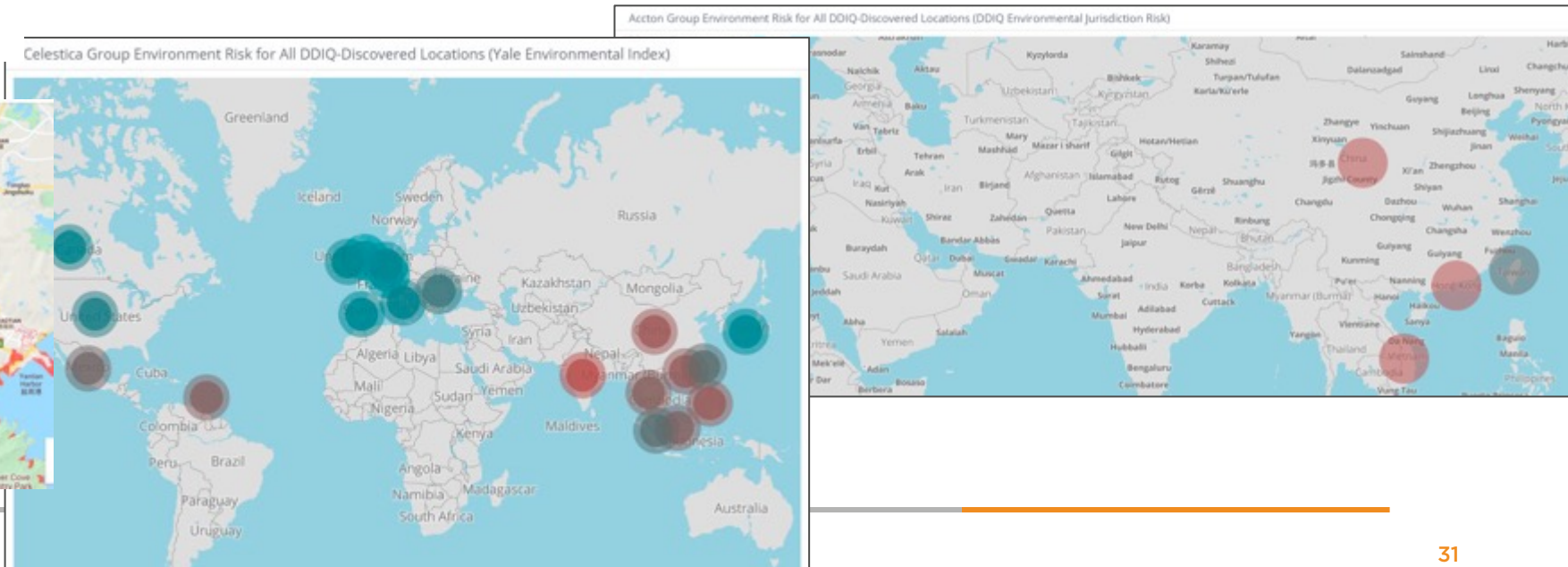
Social Risk Examples

Social jurisdiction risks are aligned with social risk index. Additionally, diversity data is flagged as a positive indicator if applicable. Additionally, ESG screening for social issues will highlight performance impacting social concerns. See examples for [company redacted] flags identified below.

Governance Risk Examples

Governance jurisdiction risks are aligned with corruption and financial crime risk indexes.

ESG screening for governance issues are broad focused on a number of operational risk which draw out the nuance of an entities ability to govern their organization. See examples for [company redacted] flags identified.

Corruption
Confidence | Date | Default Sort | View all 3 events

Bribery Case Involving Chappaqua Schools Ends In Guilty Verdict
Published on Aug 30, 2021 us.newschant.com · 2 other mentions

Aug 30, 2021
First seen
Aug 30, 2021

contacted by each the Chappaqua Central School District and **Johnson Controls, Inc**, a vendor to the college district. Jimenez was additionally ...Bronxville-Eastchester with free, real-time updates from Patch. Jimenez faces a *sentence* starting from a conditional discharge to a most of 5 to fifteen years in state *jail*. He is scheduled to be *sentenced* on Nov. 29. To request elimination of your title from an *arrest* report, submit these required objects to *Bribery* Case Involving Chappaqua Schools Ends In *Guilty* Verdict The guidelines of replying: Be respectful. This is an

Fine or Penalty Imposed
Confidence | Date | Default Sort | View all 3 events

:. Pays $14.4 Million to Settle SEC FCPA Allegations; DOJ Declines Criminal Prosecution
Published on Jul 18, 2016 PracticeView Database via LexisNexis

Jul 18, 2016

On July 11, 2016,) *agreed to pay* $14.4 million to settle *allegations* by the U.S. Securities and Exchange Commission that JCI, through its subsidiaries in China, violated the books and records and internal controls provisions of the U.S. Foreign Corrupt Practices Act. The SEC *alleged* that, from 2007 to 2013, nearly all of the employees of

Why Did Workers at   Plants Walk Off the Job?
Published on Aug 1, 2016 Latino Reb

Aug 1, 2016
First seen
Jul 27, 2016

Journal, Stephen Dockery reported that 'Manufacturing company   o pay $14 million to settle[3] Foreign *Corrupt* Practices Act *charges* with the Securities and Exchange Commission over conduct in China, while the Justice Department closed its *investigation* into the matter partly because of extensive cooperation by the

Also referenced: Fine or Penalty Imposed

I4.4M to Settle SEC Charges - July 13, 2016 - Zacks.com
Published on Jul 12, 2016 www.zacks.com

Jul 12, 2016

The SEC put fo   re of the bribery at the time of *acquiring* China Marine. This is a wholly-owned subsidiary that   ained through its 2005 *buyout* of York International. Thou   implemented different strategies to address the issue, it could

Also referenced: Subsidiary | Links to Risk Sensitive Jurisdiction

Data Monitoring & Evolution Tracking

DDIQ's ongoing monitoring capabilities will allow for continuously monitoring of third parties for new ESG data points and risk indicators. This can facilitate the ability to track the evolution of the vendor's ESG risk rating over time, for example in the screenshot below should a third party be fined for an environmental crime a monitoring alert will be raised, which can be communicated at a different frequency depending on severity.

This entity is being monitored **DAILY**. The first run will occur on **Sep 2, 2021**.

Environmental Crime

AIR POLLUTION: Lead battery plant slammed with fine
Published on Mar 8, 2016 Greenwire via LexisNexis

Mar 8, 2016

Inc.'s lead battery recycling plant was *fined* $250,000 in penalties last year, the largest fine that year for any *air pollution violations* in South Carolina. This week, the company put out a statement saying the *violations* were due to "deficiencies" in the way   keeps records and oversees report information. Company officials

Questions?

Contact Exiger