INFRACLEAR

Driving the digital transformation of infrastructure

Pitchbook

Global Infrastructure Hub

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Infraclear: the Bloomberg of infrastructure

- Seed stage company seeking to transform the **$4 trillion/ year** infrastructure industry[1]
- Have one of the **world's largest (and growing) databases** of contracts for infrastructure projects
- Developing proprietary machine learning algorithms to extract data from these documents. **Such granular data has never been available before at scale**
- Leveraging this data to build first-of-a-kind products for benchmarking, risk management, portfolio construction and rapid procurement
- Early clients have stated that Infraclear's products and data could be an essential information utility and transform industry, by:
  - *Saving individual projects years of development time, and millions of dollars per project*
  - *Bringing fintech to a sector that still relies on paper documents and is stuck in the digital "Jurassic Age"*
  - *Better managing risk in billion-dollar infrastructure loan portfolios*
  - *Securitizing infrastructure portfolios and creating a transparent, liquid market for infrastructure loans*

1. Infrastructure includes power, transport, water & sanitation, telecoms (e.g. data centers, undersea cables), and mining

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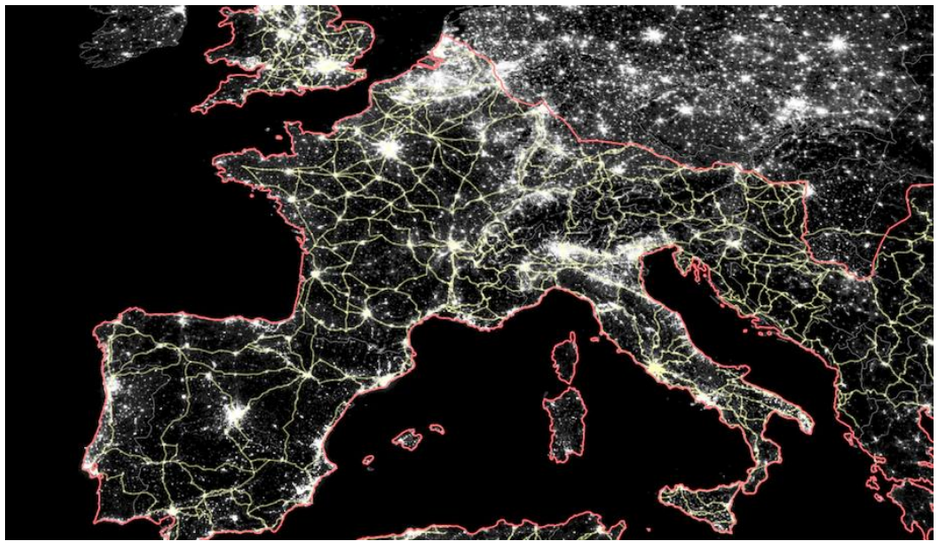
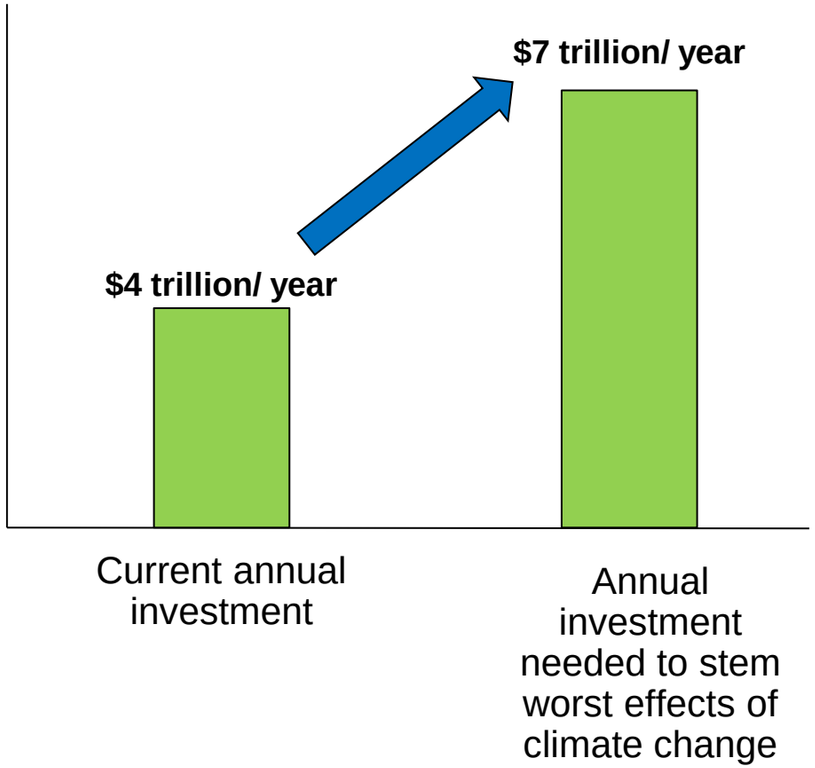
Why invest in infrastructure?

Infrastructure underpins growth of civilization



Cities in Europe emerged along the roads built by Romans 2,000 years ago.

Need to invest additional $3 trillion/ year to avert climate crisis



1. “How 2,000-year-old roads predict modern-day prosperity”, *Washington Post*, August 7, 2018. Ancient Roman roads (light yellow) superimposed on 2010 satellite imagery of nighttime lighting in Europe; *Roman Roads to Prosperity: Persistence and Non-Persistence of Public Goods Provision,* CJ Dalgaard et al. Journal of Economic Behavior and Organization, Dec 2018
2. OECD, IEA, Investing in Climate, Investment in Growth, July 2017.

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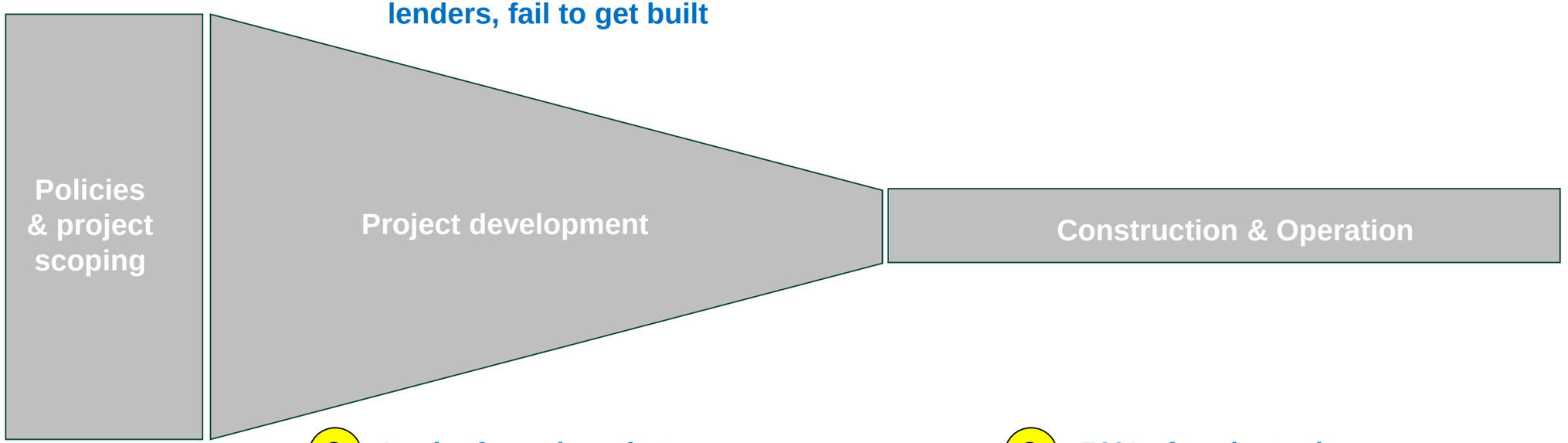
Infrastructure project development has a 90% failure rate

1 **90% of projects started by developers, governments and lenders, fail to get built**



2 **Lack of good market information means it takes 3-8 years to develop a project**

3 **50% of projects that are completed, eventually get restructured**

Project development, poor risk management, restructuring, and lack of liquidity costs the industry nearly $650 billion per year

Sources: *Leading Practices in Governmental Processes Facilitating Infrastructure Project Preparation,* G-20 Global Infrastructure Hub, 2019; *Construction: The Next Great Tech Transformation, McKinsey & Co., July 2017;* World Bank Global Infrastructure Facility, IFC, Infraclear analysis.

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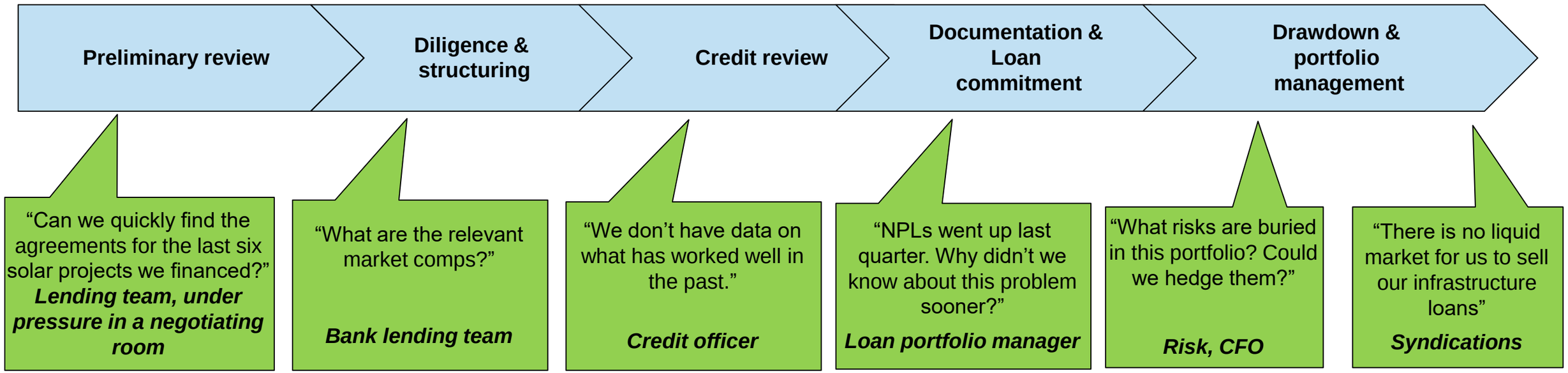
Banks, insurers, and governments lack basic information. They are flying blind.

Bank loan processing cycle



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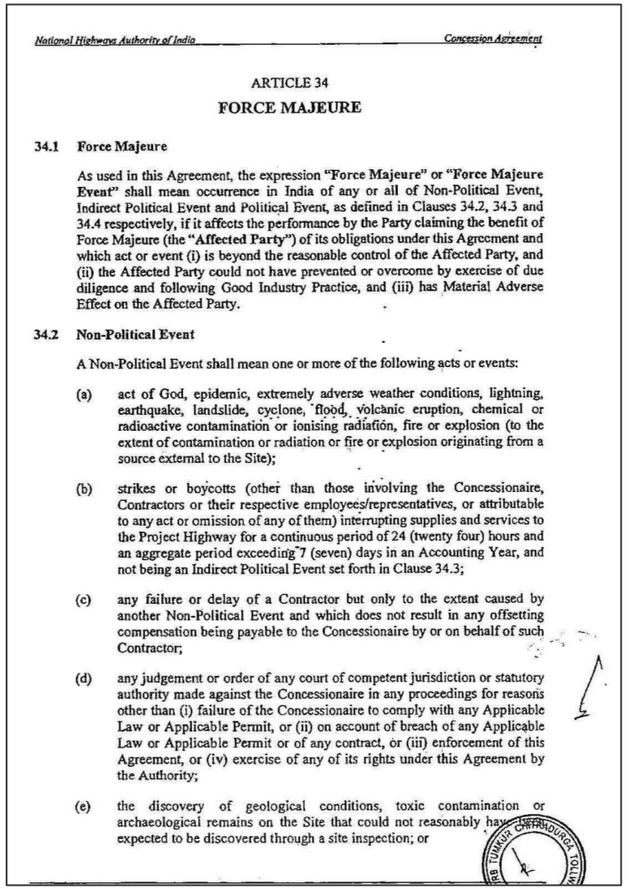
We convert complex infrastructure agreements into usable data



National Highways Authority of India — Concession Agreement

ARTICLE 34

FORCE MAJEURE

34.1 Force Majeure

As used in this Agreement, the expression "**Force Majeure**" or "**Force Majeure Event**" shall mean occurrence in India of any or all of Non-Political Event, Indirect Political Event and Political Event, as defined in Clauses 34.2, 34.3 and 34.4 respectively, if it affects the performance by the Party claiming the benefit of Force Majeure (the "**Affected Party**") of its obligations under this Agreement and which act or event (i) is beyond the reasonable control of the Affected Party, and (ii) the Affected Party could not have prevented or overcome by exercise of due diligence and following Good Industry Practice, and (iii) has Material Adverse Effect on the Affected Party.

34.2 Non-Political Event

A Non-Political Event shall mean one or more of the following acts or events:

(a) act of God, epidemic, extremely adverse weather conditions, lightning, earthquake, landslide, cyclone, flood, volcanic eruption, chemical or radioactive contamination or ionising radiation, fire or explosion (to the extent of contamination or radiation or fire or explosion originating from a source external to the Site);

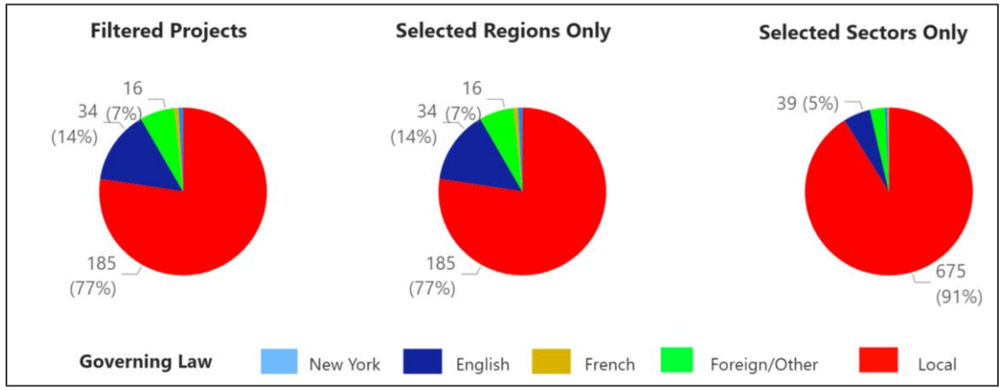
(b) strikes or boycotts (other than those involving the Concessionaire, Contractors or their respective employees/representatives, or attributable to any act or omission of any of them) interrupting supplies and services to the Project Highway for a continuous period of 24 (twenty four) hours and an aggregate period exceeding 7 (seven) days in an Accounting Year, and not being an Indirect Political Event set forth in Clause 34.3;

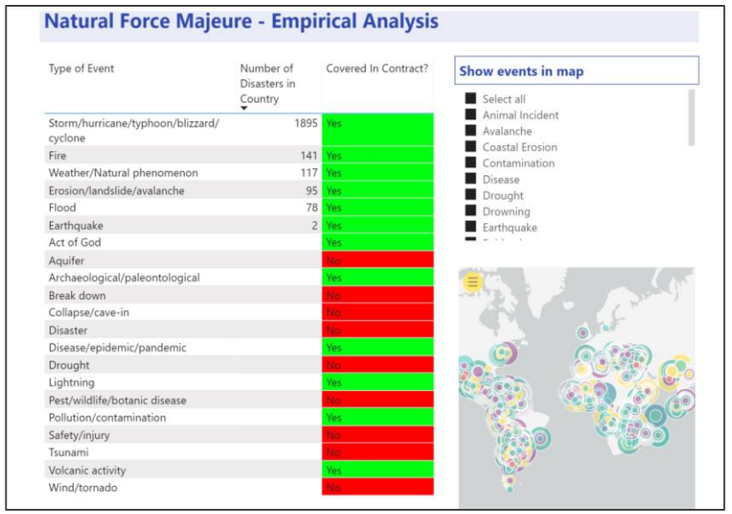
(c) any failure or delay of a Contractor but only to the extent caused by another Non-Political Event and which does not result in any offsetting compensation being payable to the Concessionaire by or on behalf of such Contractor;

(d) any judgement or order of any court of competent jurisdiction or statutory authority made against the Concessionaire in any proceedings for reasons other than (i) failure of the Concessionaire to comply with any Applicable Law or Applicable Permit, or (ii) on account of breach of any Applicable Law or Applicable Permit or of any contract, or (iii) enforcement of this Agreement, or (iv) exercise of any of its rights under this Agreement by the Authority;

(e) the discovery of geological conditions, toxic contamination or archaeological remains on the Site that could not reasonably have expected to be discovered through a site inspection; or

Natural Language Processing, Machine Learning





Natural Force Majeure - Empirical Analysis

Type of Event	Number of Disasters in Country	Covered In Contract?
Storm/hurricane/typhoon/blizzard/ cyclone	1895	Yes
Fire	141	Yes
Weather/Natural phenomenon	117	Yes
Erosion/landslide/avalanche	95	Yes
Flood	78	Yes
Earthquake	2	Yes
Act of God		Yes
Aquifer		No
Archaeological/paleontological		Yes
Break down		No
Collapse/cave-in		No
Disaster		No
Disease/epidemic/pandemic		Yes
Drought		No
Lightning		Yes
Pest/wildlife/botanic disease		No
Pollution/contamination		Yes
Safety/injury		No
Tsunami		No
Volcanic activity		Yes
Wind/tornado		No

Show events in map

Select all
Animal Incident
Avalanche
Coastal Erosion
Contamination
Disease
Drought
Drowning
Earthquake

Notes: Actual output from Infraclear's benchmarking product.
Actual analysis of Governing Law across sample of 714 projects; force majeure terms of Tumkur-Chitradurga (India) Toll Road Concession Agreement

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Infraclear's platform

1. Find unstructured documents

Public agreements

Private agreements

News feeds, climate risk data

Performance data

2. Use proprietary algorithms to extract data

Machine Learning

3. Platform to drive digital transformation of infrastructure

Alibaba of infrastructure procurement

Cheaper, faster securitization

Asset allocation tools

Intelligent discovery platform

Portfolio risk management tools

Primary database with never-been-seen market intelligence

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Products that drive digital transformation

Products	Impact	Customers
1. Primary database for industry	Provide granular information on risks for clients who lack basic market data Increase banks' project finance lending margins by 10% Reduce time and cost of developing a new project by over 25%. Bring more bankable deals to market	Banks, multilaterals, lawyers, developers, insurers, infrastructure funds utilities, regulators
2. Intelligent discovery platform	One of the world's largest searchable repositories of agreements. Also make clients' own internal documents more usable.	Banks, multilaterals, lawyers, utilities, infrastructure funds
3. Portfolio risk management tools	Help clients better manage their own contract risks. Creates new ways to hedge portfolios	Banks, insurers, infrastructure funds, EPCs
4. Asset allocation tools	Little data on track record or risks. Help LPs quantify and track the risks being taken by infrastructure funds.	Infrastructure funds, fund placement agents, limited partners investing in infrastructure (60% of all sovereign wealth funds and pension funds)
5. Cheaper, faster securitization	Last great asset class that is still illiquid. Can add 2.5 percentage points to the return for an infrastructure portfolio and make the market liquid. $3 trillion of loans outstanding	FAST Infra consortium, institutional investors, banks, underwriters, rating agencies
6. Alibaba of infrastructure procurement	Granular data allows us to create a rapid procurement platform. Cuts procurement timelines by at least 20%.	Developers, construction companies, banks, multilaterals, governments, insurers

Shaded areas are initial focus

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Core team

Product vision + industry relationships

Giridhar Srinivasan (CEO)

- 16 years of experience in infrastructure investment and project development.
- Worked at IFC, Lehman Brothers Infrastructure Fund, and Rothschild's Infrastructure M&A team.
- BA, Swarthmore, MBA Wharton.

Natural language processing

Sylvia Kwakye (VP Data Science)

- Text Systems Developer, Cornell Law School's Legal Information Institute (world's largest open-source platform for legal information; 39 million users)
- Expert at using NLP to analyze complex legal texts. Made entire United States Code of Federal Regulations searchable using natural language queries
- BS Engineering & Computer Science, Swarthmore. PhD in Engineering, Cornell

Voice of the customer

Natalie Bowlus (VP Product Development)

- Project finance expert. Director for Global Infrastructure & Power, CIBC Capital Markets. Credit Analyst for Project Finance at Moody's.
- BA Mathematics, Swarthmore College; MA Law & Diplomacy, Fletcher School, Tufts University
- Fulbright Scholar in Mathematics, Eötvös Loránd University, Hungary

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Impact: Drive digital transformation of infrastructure

Primary data

More transparency; easier to compare projects

Bring more bankable projects to market

Simplify analysis, negotiation & procurement

Reduce time to market by 20-30%

Reduce project development costs 20%

Increase banks' project finance lending margins by 10%

Transform risk management

Easier to assess and hedge climate risks

More economically stable assets

Pre-empt renegotiation, fewer defaults

Make infrastructure a liquid asset class

Transform infrastructure into liquid asset class

Lower capital charges increase returns by up to 2.5 percentage points

Drives standardization

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