FINANCIAL SERVICES
CLOUD SYMPOSIUM

How Morningstar Innovates with Data on AWS

James Rhodes

Chief Technology Officer

OUR MISSION

Empowering investor success

Problems to Solve

Easily Experiment with New Research Ideas

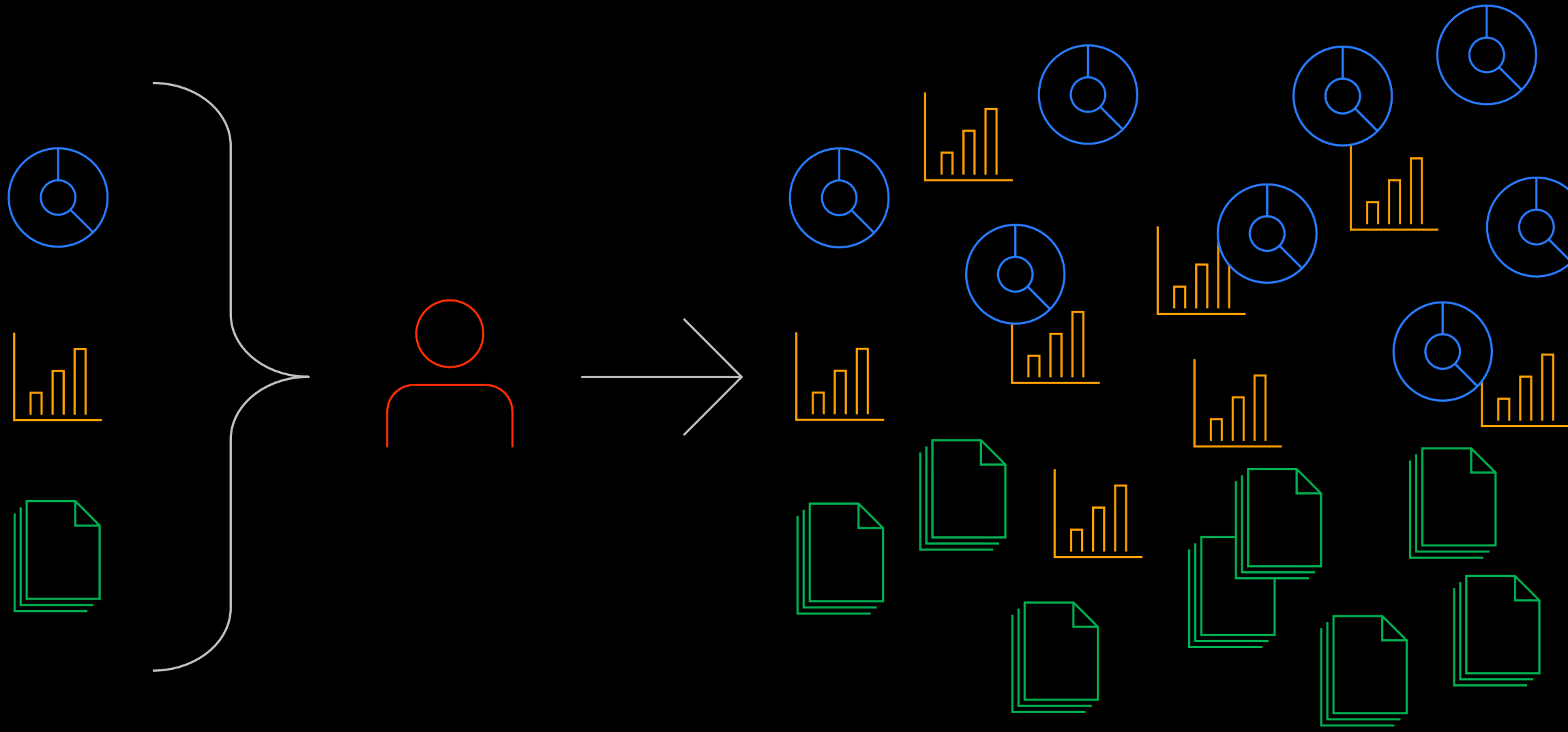
Respond Quickly to Regulatory Requirements

Problems to Solve

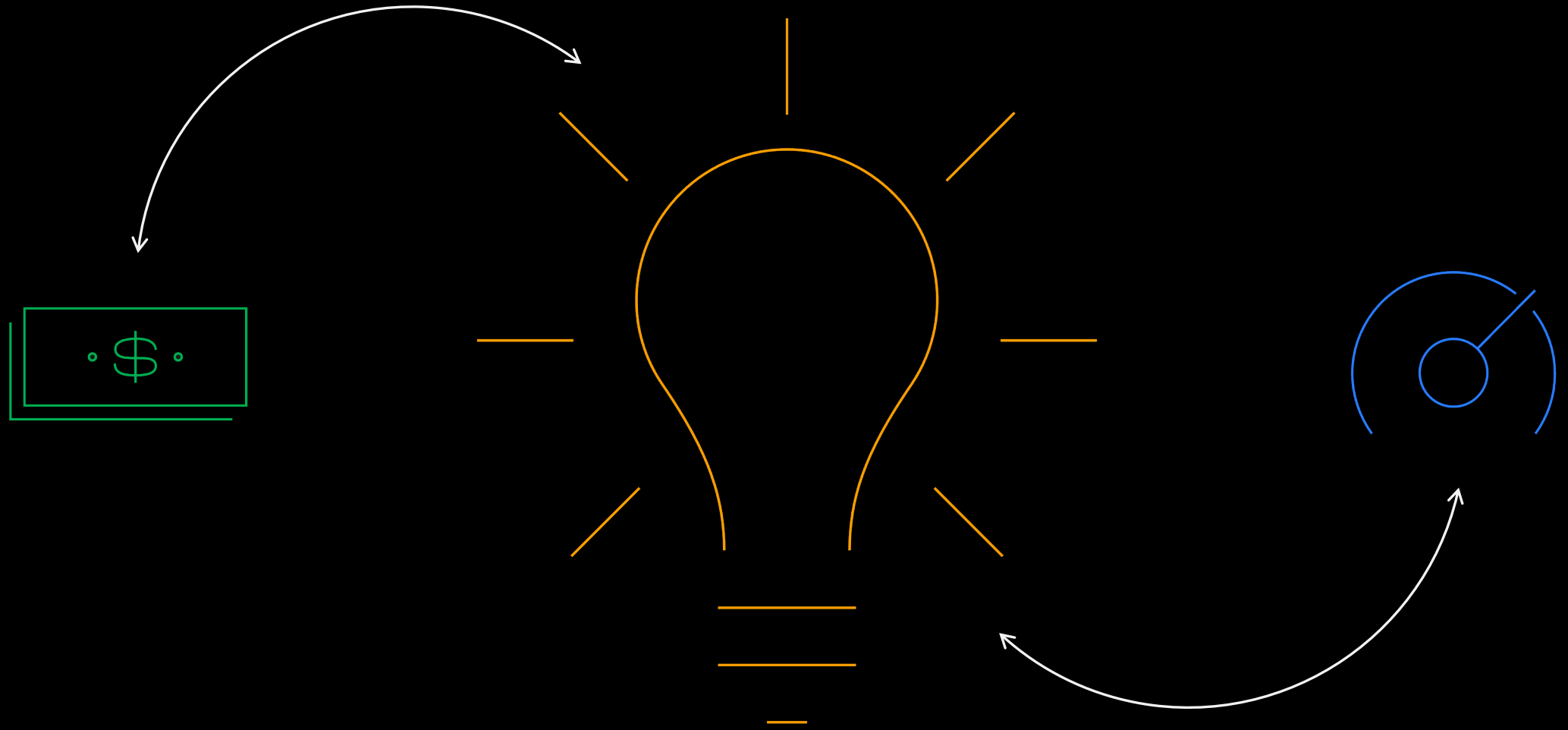
Bring Transparency to our Data & Ratings

Scale & Efficiency

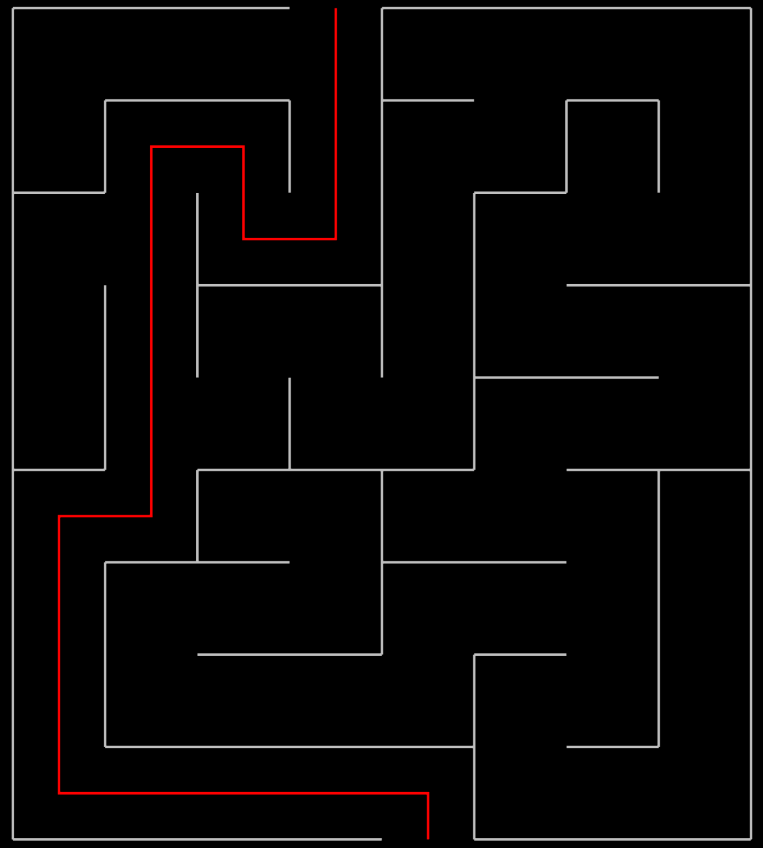
Data to the Power of X

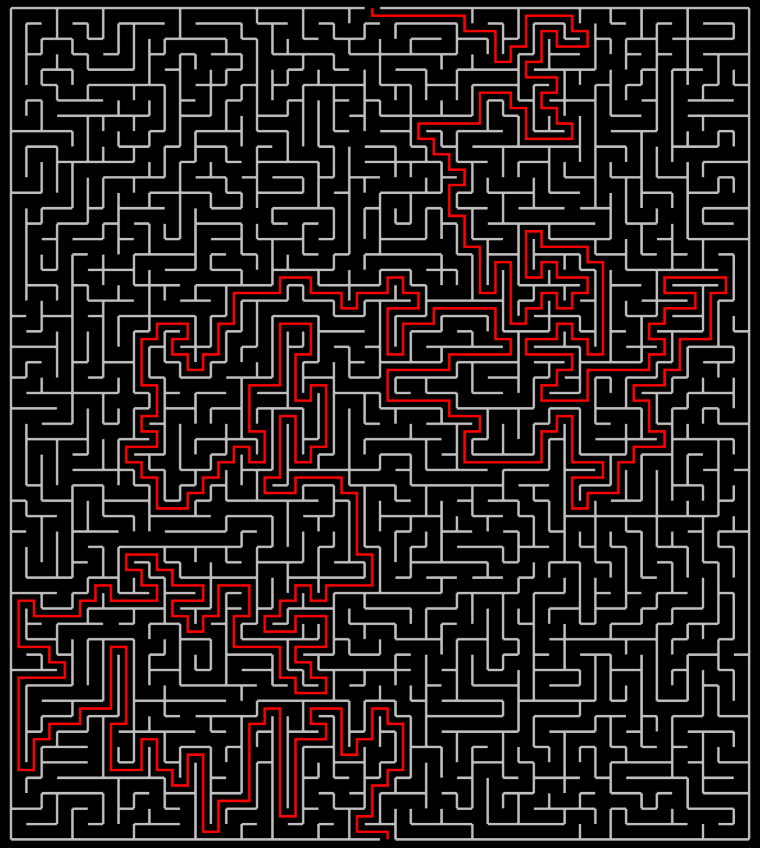


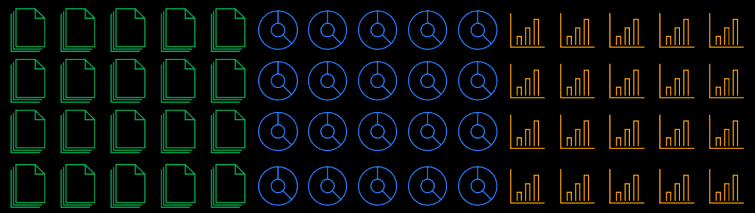
Cost and Speed to Innovate



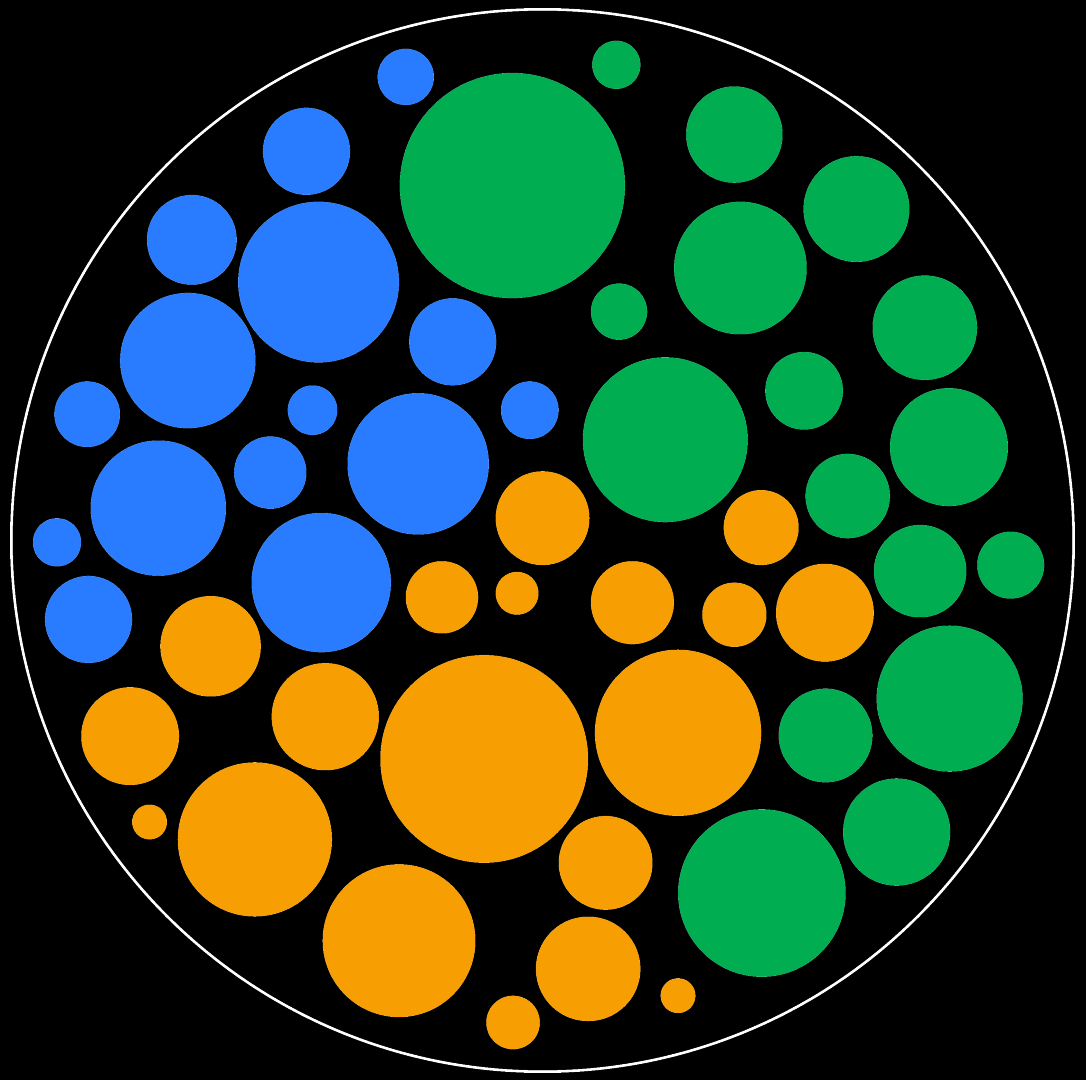
Breadth, Depth, and Access





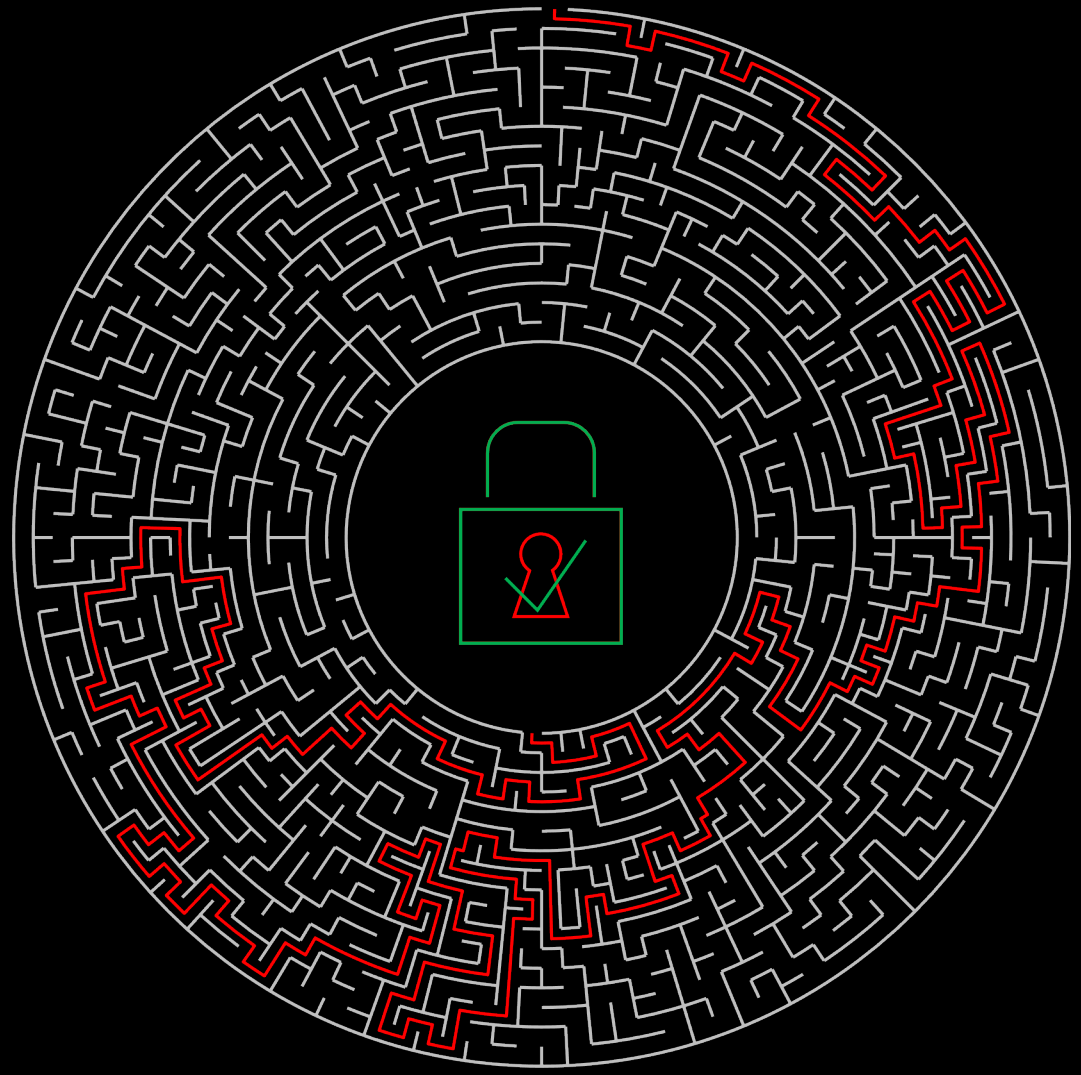


Elasticity

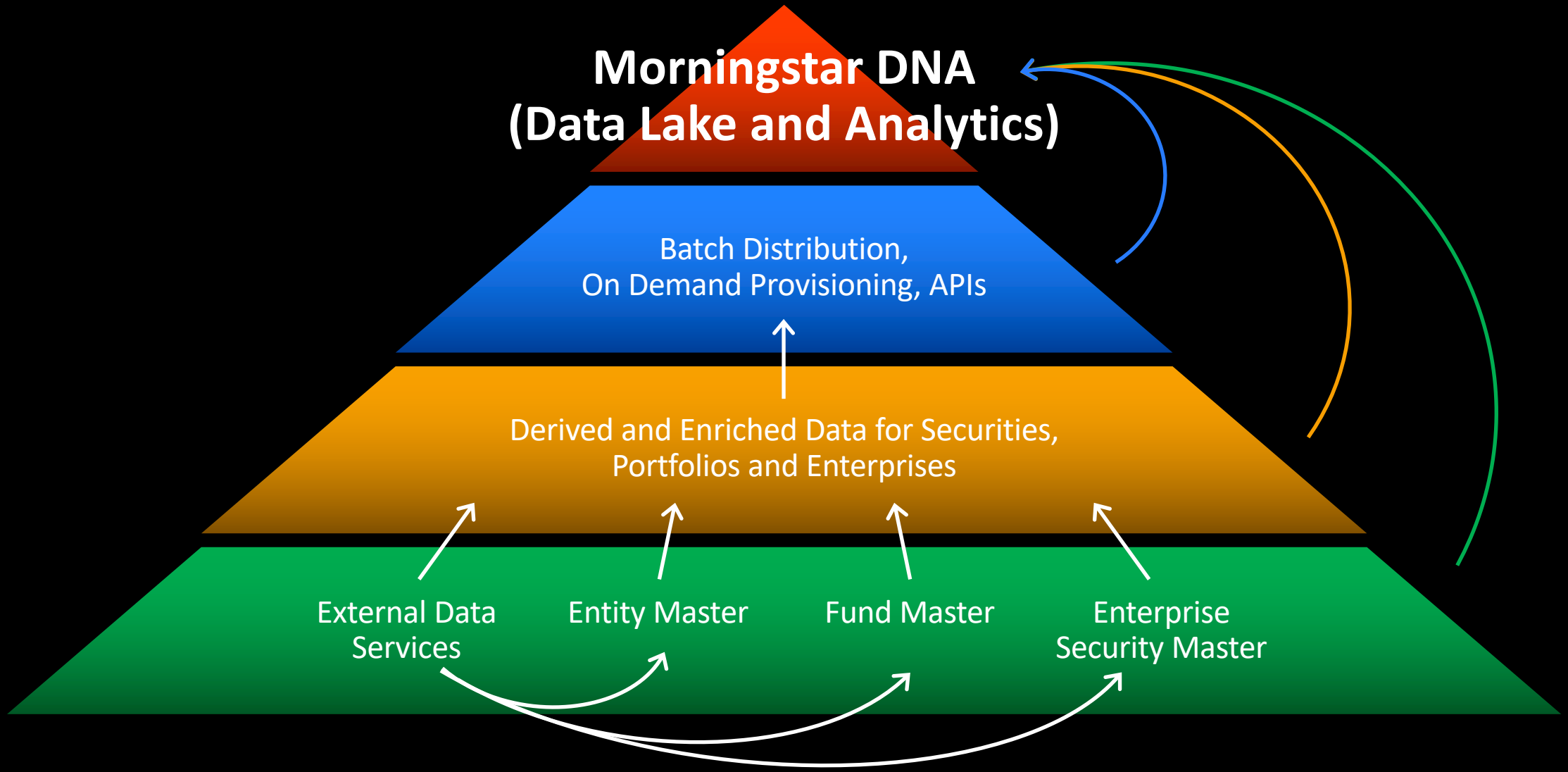


Journey to Solve

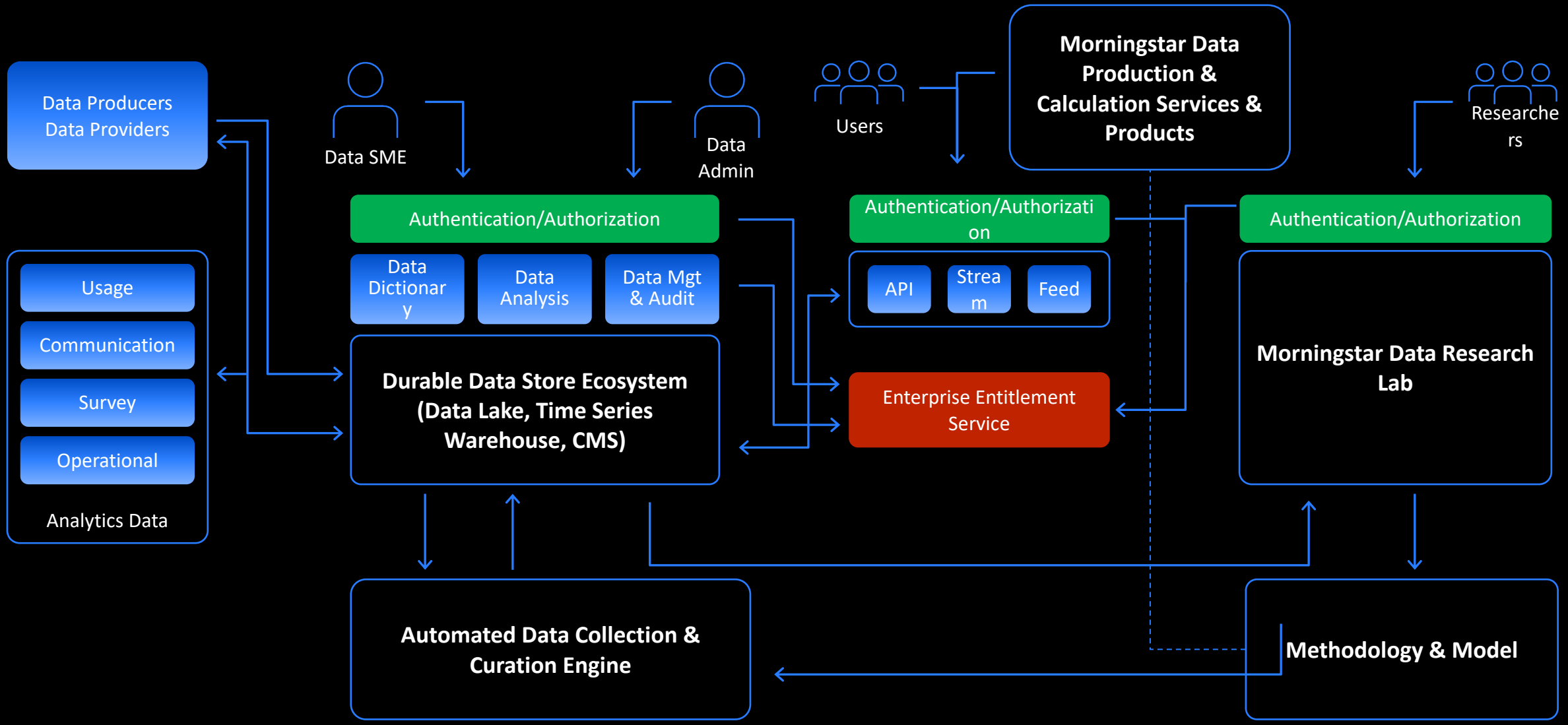
Centralized and Secure Access



Data Lake Architecture



Schematic on Data



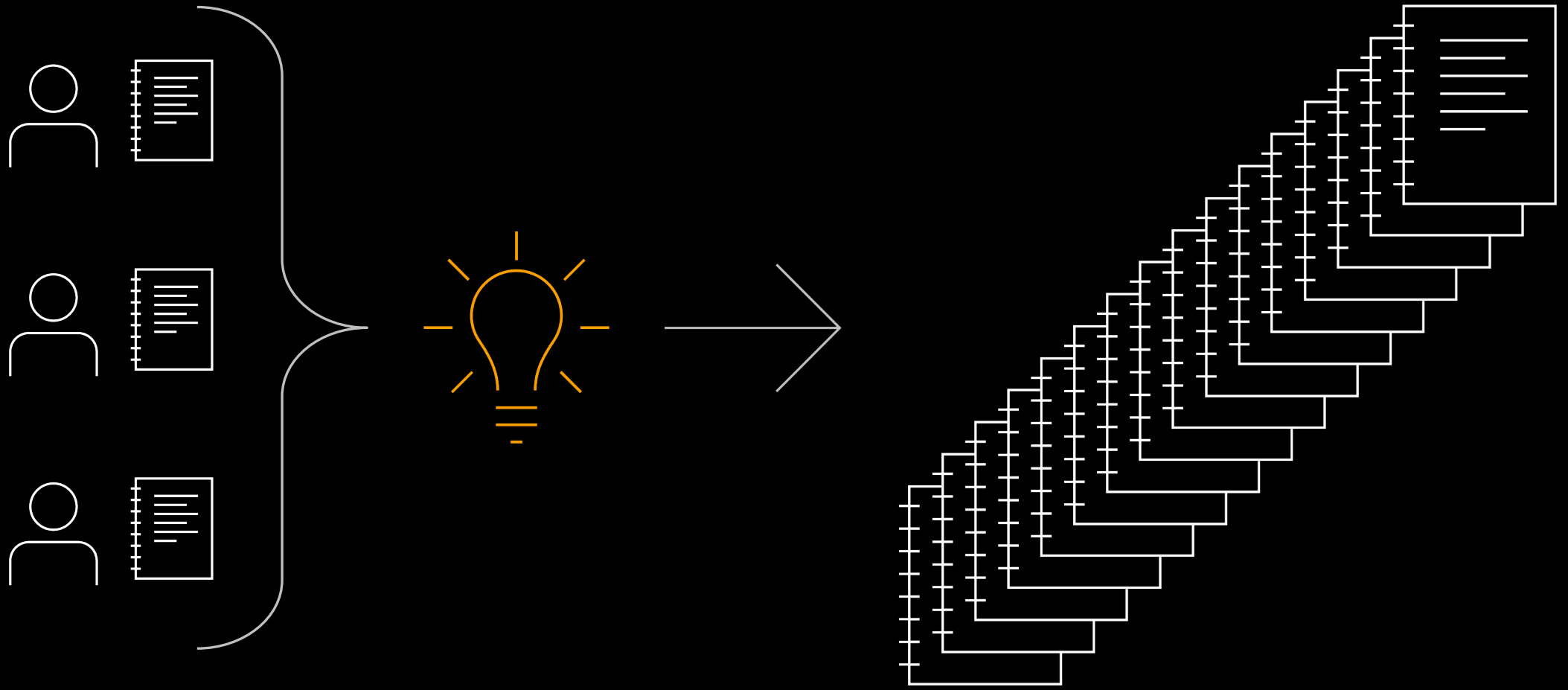
Solution Criteria

3rd Party Solutions

Easy Access

Visualizations

Notebooks in Action



Value to Solving

MORNINGSTAR Direct

Search for Securities and Research...

Lists & Search Criteria

Create

Name	Type	Last Modified
ESG sample search	Search Criteria	3/23/2021
top 3 sample	List	3/16/2021
Sustainable Landscape U.S. Funds Q4 2020	List	3/5/2021
US Stable Value Funds	Search Criteria	2/26/2021
sample screen	Search Criteria	2/21/2021
Sustainable Landscape Global Funds Q4 2020	List	1/25/2021
Sustainable Landscape European Funds Q4 2020	List	1/25/2021
Morningstar Prospects	List	1/12/2021
sample research list	List	8/7/2020

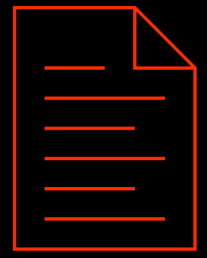
Morningstar Analyst Research

Thematic | Reports

MACRO & MARKETS

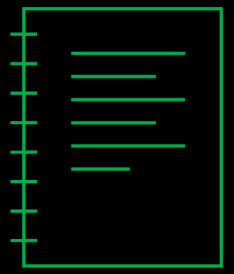
MACRO AND MARKETS

Scale & Efficiency



5 Annual Morningstar Papers

950 Analyst Hours



61 Notebooks Possible

140 Hours Saved

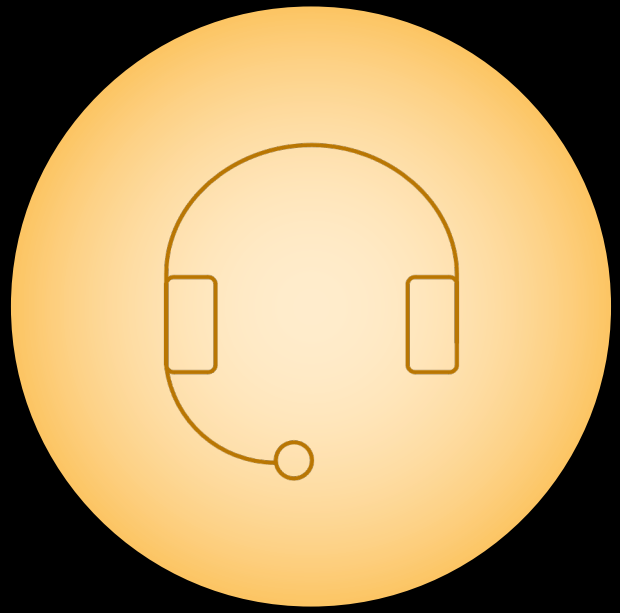
15% Faster Delivery

	Service	Metric	Value
	AWS Lambda	Invocations/Month	6.1 Mil
	AWS Simple Storage Service	Active Buckets	40
	AWS Simple Storage Service	Total Storage	69.4 TB
	AWS Simple Storage Service	Object Count	17.6 Mil
	AWS Glue Data Catalog	Databases	202
	AWS Glue Data Catalog	Tables	1,807

Lessons Learned

Key Lessons Learned

Extract, Load, Transform

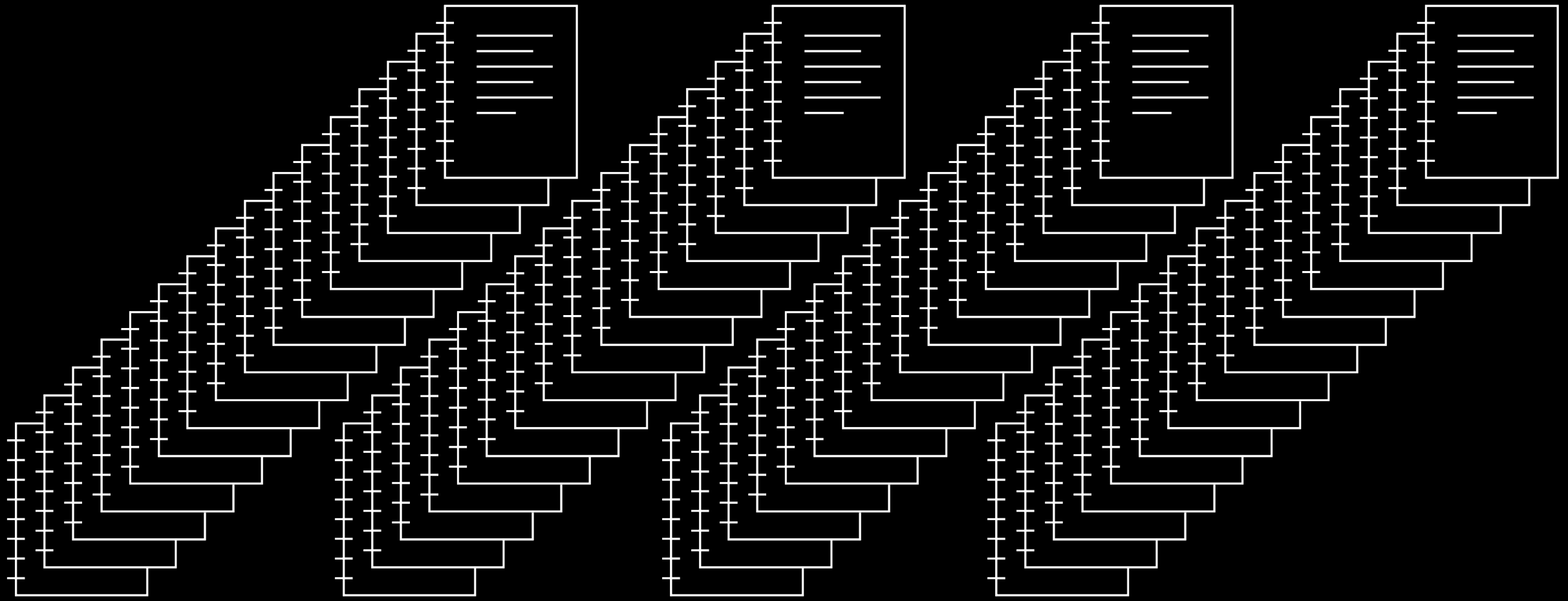


Leverage AWS Enterprise Support

Engage with Security Partners

The Future is Bright

Scaling Success



Thank you!

James Rhodes

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Please complete the session survey