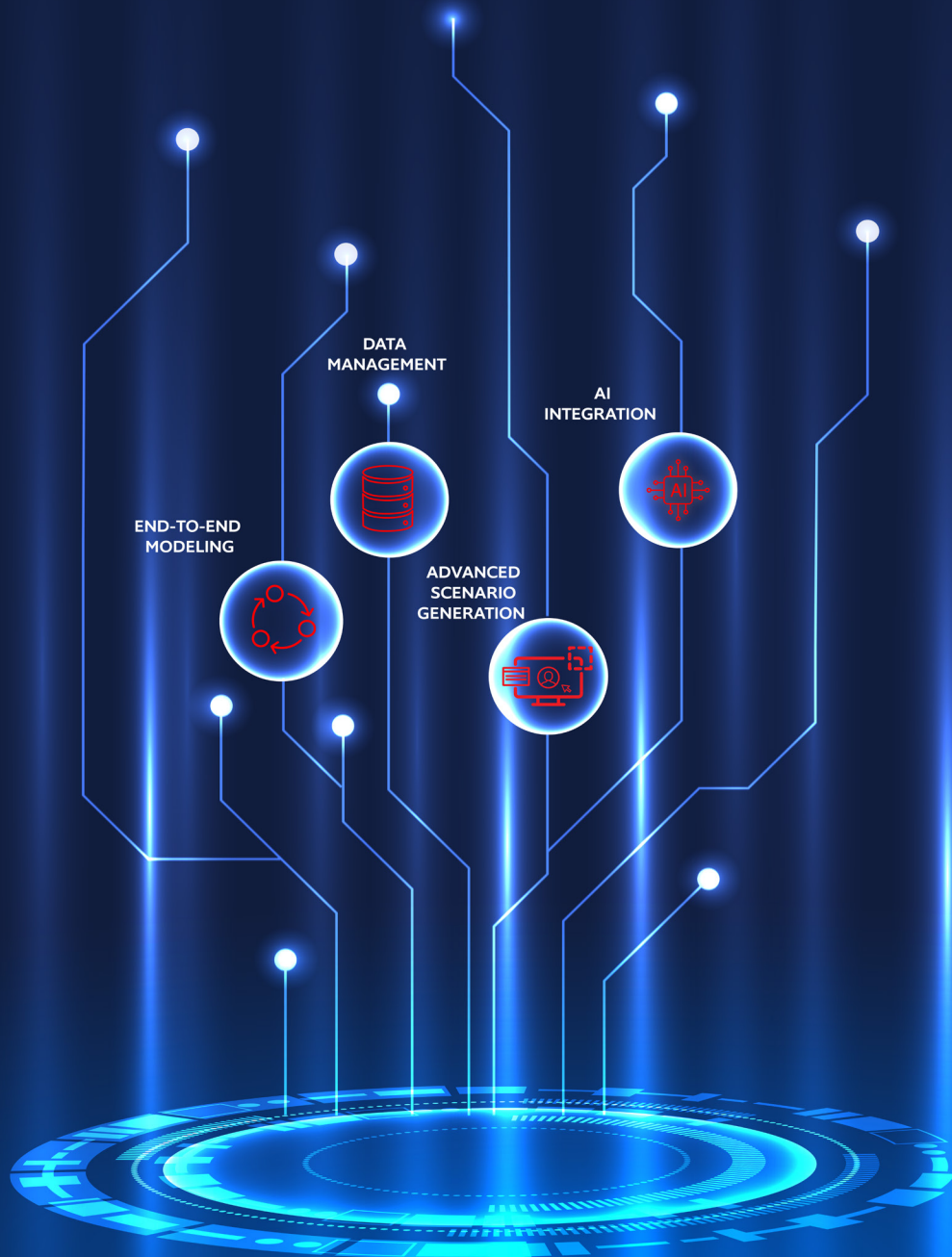




RIVERLOGIC

Real decisions. Optimized.



VALUE CHAIN OPTIMIZATION SOLUTION DATASHEET



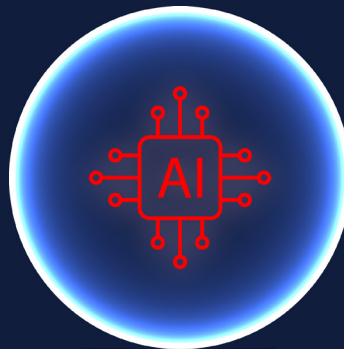
End-to-End Modeling



Data Management



**Advanced Scenario
Generation**



AI Integration

Value Chain Optimization (VCO) is a comprehensive solution designed to quantify and optimize the full potential of your current and future network.

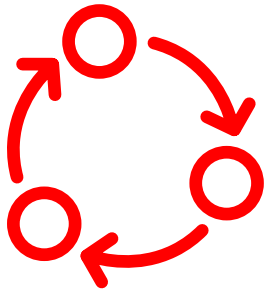
It expands the scope of network design beyond the traditional transportation and logistics focus to provide insights that ensure supply chain strategy aligns with financial and sustainability corporate objectives.

This expert solution is powered by River Logic's Digital Planning Twin™ technology, which is uniquely capable of capturing all relevant input variables, constraints, and objectives.

The resulting model is deployed in a secure and scalable cloud environment leveraging the full suite of Microsoft Azure services, including Azure SQL Managed Instance, Azure Active Directory, Azure Service Fabric, Power Apps, Power Automate, and more.

With an exciting roadmap focused on innovation and ease of use, River Logic is building on its long-standing partnership with Microsoft to fully integrate AI functionality to help users more easily identify, configure, and analyze what-if scenarios aimed at maximizing the full potential of your network.

KEY FEATURES:



END-TO-END MODELING:

Flow Path Optimization:

Analyzes all possible product flow options within a single model, considering suppliers, inventories, DCs, and more, to find the optimal flow to meet an objective function as SLA.

Multi-level Manufacturing Optimization:

- Capabilities for product substitutions and blending constraints to optimize manufacturing processes.

Supplier Contracts Optimization:

- Optimize strategies by incorporating features such as contracts, MTOPs (Maximum Takeoff Performance), volume discounts, and ratio constraints.
- Manages purchasing contracts and inventory aging and facilitates product returns and re-use to optimize resource utilization.

Financial Modeling and Reporting:

- Rolls up plans into financial statements to constrain or bias the solution towards line items (e.g., working capital constraints, COGS, operating profit) or ratios (e.g., margins, NPV); manages and optimizes the financial aspects of the supply chain (capital required to support growth, portfolio optimization, costing model, sustainability accounting, capacity planning) to achieve corporate goals (margin/profit/SLA).

Sustainability Integration:

- Addresses sustainability concerns with CO2e constraints, options for free/paid CO2e credits, and clear objectives for environmental impact minimization.

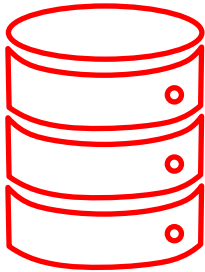
User-Defined Constraints:

- Allows users to define custom constraints such as ratios and inequalities to tailor the optimization process to specific business needs.

Objective Functions:

- Supports multiple/user-defined objective functions to align optimization efforts with business goals, such as profit, margins, and NPV.

DATA MANAGEMENT



Predefined Templates:

- Facilitates easier data integration and management, minimizing setup time and effort.

Data Validation:

- Offers a standard set of configurable data validation rules to ensure data accuracy and integrity.

Automation and Transformation:

- Automates data management tasks, including Extraction, Transformation, and Loading (ETL) processes, with ADF (Azure Data Factory) Jobs for enhanced efficiency.

Data Generation and Migration:

- Provides easy-to-use tools for data generation and migration, simplifying the data transformation process.

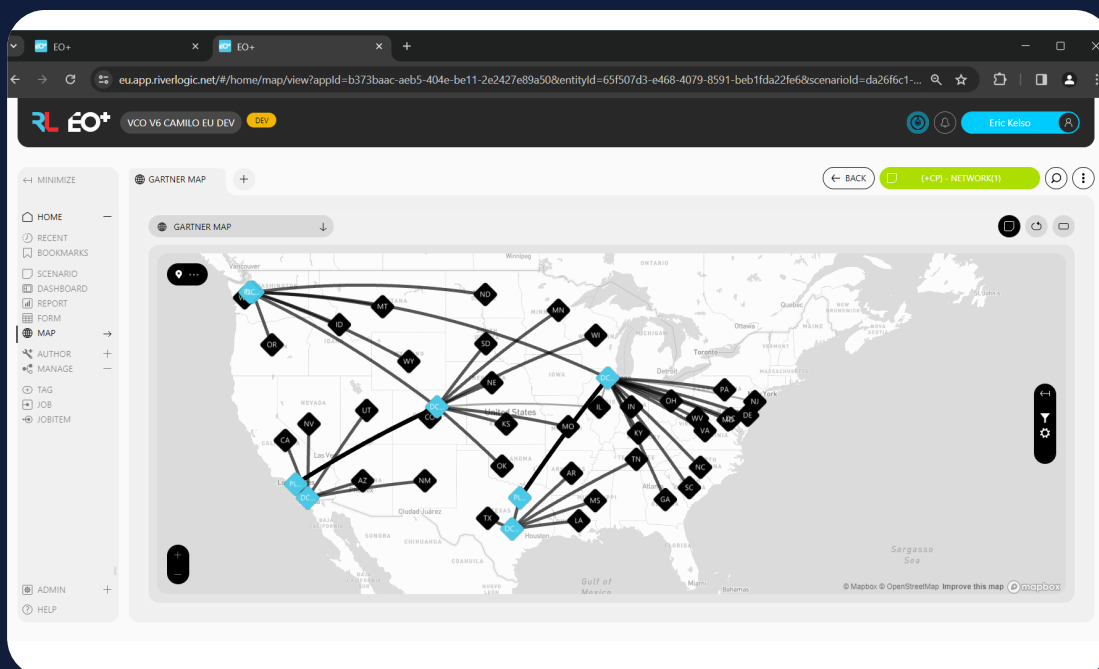
ADVANCED SCENARIO GENERATION



Utilize powerful tools such as Monte Carlo simulation and multi-scenario filtering to generate comprehensive insights. Gain insights and quantify risk exposure effectively by leveraging:

- **Enhanced User Experience (UX/UI)**
- **New Geo Mapping Features:**
Visualize source/destination data and route flow options with additional filtering capabilities for improved decision-making.
- **Expanded VCO Reports:**
Access a wider range of reports facilitating easier root cause analysis, seamlessly transitioning from summary to detailed scenarios.
- **Configurable Dashboards, PowerBI and maps**

ADVANCED SCENARIO GENERATION



Financials

Detail Unit Cost Scenario Comparison

Mar 13

Location

Search

Select all

AR

AZ

CA

CO

DC

DE

GA

Reporting Org

All

Company, Eliminations, Inventory Operations, Production, Sales

Time Periods

All

2020-01, 2020-02, 2020-03, 2020-04, 2020-05, 2020-06, 2020-07, 2020-08, 2020-09, 2020-10, 2020-11, 2020-12

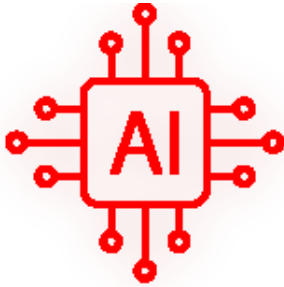
SCE 1 - (+/-) - Network (SCE) + Base Case (Scenario)

SCE 2 - (+/-) - Network (SCE) + Footprint /CAPEX Constraint (Sub SCE)

TimePeriod	2020-01-01 00:00:00				2020-02-01 00:00:00				2020-03-01 00:00:00				2020-04-01 00:00:00			
Account	Scenario 1	Scenario 2	Delta	Delta %	Scenario 1	Scenario 2	Delta	Delta %	Scenario 1	Scenario 2	Delta	Delta %	Scenario 1	Scenario 2	Delta	
Gross Sales	\$12.00	\$12.00	\$0.00	0.00%	\$12.00	\$12.00	\$0.00	0.00%	\$12.00	\$12.00	\$0.00	0.00%	\$12.00	\$12.00	\$0.00	
Disc. Ret & Allowances	\$0.26	\$0.77	\$0.50	189.57%	\$0.26	\$0.77	\$0.50	189.98%	\$0.26	\$0.76	\$0.50	192.89%	\$0.26	\$0.76	\$0.50	
Net Sales	\$11.74	\$11.23	(\$0.50)	-4.28%	\$11.74	\$11.23	(\$0.50)	-4.28%	\$11.74	\$11.24	(\$0.50)	-4.29%	\$11.74	\$11.24	(\$0.50)	
Net Purchases	\$3.82	\$3.84	\$0.01	0.31%	\$3.83	\$3.84	\$0.01	0.27%	\$3.83	\$3.84	\$0.01	0.27%	\$3.83	\$3.84	\$0.01	
Net Inventory	\$0.00	\$0.00	\$0.00	0.00%	\$0.00	\$0.00	\$0.00	0.00%	\$0.00	\$0.00	\$0.00	0.00%	\$0.00	\$0.00	\$0.00	
Total Materials	\$3.82	\$3.84	\$0.01	0.31%	\$3.83	\$3.84	\$0.01	0.27%	\$3.83	\$3.84	\$0.01	0.27%	\$3.83	\$3.84	\$0.01	
Labor	\$0.15	\$0.15	(\$0.00)	-0.13%	\$0.15	\$0.15	\$0.00	1.16%	\$0.15	\$0.15	\$0.00	0.54%	\$0.15	\$0.15	\$0.00	
Variable Processing	\$2.00	\$2.00	\$0.00	0.00%	\$2.00	\$2.00	\$0.00	0.00%	\$2.00	\$2.00	\$0.00	0.00%	\$2.00	\$2.00	\$0.00	
Fixed Processing	\$0.36	\$0.30	(\$0.06)	-16.23%	\$0.37	\$0.38	\$0.01	2.73%	\$0.37	\$0.25	(\$0.12)	-33.68%	\$0.40	\$0.35	(\$0.05)	
Conversion_Slack_Per Unit	\$0.00	\$0.00	\$0.00	0.00%	\$0.00	\$0.00	\$0.00	0.00%	\$0.00	\$0.00	\$0.00	0.00%	\$0.00	\$0.00	\$0.00	
Total Processing	\$2.51	\$2.45	(\$0.06)	-2.33%	\$2.52	\$2.53	\$0.01	0.47%	\$2.52	\$2.39	(\$0.12)	-4.93%	\$2.55	\$2.50	(\$0.05)	
Depreciation	\$0.10	\$0.09	(\$0.01)	-10.41%	\$0.10	\$0.11	\$0.01	5.23%	\$0.10	\$0.08	(\$0.02)	-21.55%	\$0.10	\$0.10	(\$0.01)	
Distribution	\$3.69	\$1.52	(\$2.17)	-58.77%	\$3.96	\$1.97	(\$1.99)	-50.17%	\$3.87	\$1.83	(\$2.04)	-52.76%	\$3.95	\$1.59	(\$2.37)	
Cost of Goods Sold	\$10.12	\$7.89	(\$2.23)	-22.00%	\$10.41	\$8.45	(\$1.96)	-18.83%	\$10.31	\$8.14	(\$2.18)	-21.11%	\$10.43	\$8.02	(\$2.41)	
SG&A	\$0.00	\$0.00	\$0.00	0.00%	\$0.00	\$0.00	\$0.00	0.00%	\$0.00	\$0.00	\$0.00	0.00%	\$0.00	\$0.00	\$0.00	
Other (Inc)/Exp	\$0.00	\$0.00	\$0.00	0.00%	\$0.00	\$0.00	\$0.00	0.00%	\$0.00	\$0.00	\$0.00	0.00%	\$0.00	\$0.00	\$0.00	
EBIT	\$1.62	\$3.34	\$1.72	106.67%	\$1.33	\$2.78	\$1.46	109.79%	\$1.43	\$3.10	\$1.67	117.26%	\$1.31	\$3.22	\$1.91	

Version 1.0

Summary Volume Dashboard



AI INTEGRATION:

Leverage the potential of artificial intelligence across the value chain with our VCO solution's integrated AI capabilities, encompassing:

Stage 1 AI Assistant - Facilitating Interaction with the Model:

- Empower decision-making by enabling functionalities such as data modification, basic decision support, scenario management, and auditing, alongside querying, search, and summarization features.

Stage 2 Decision Support AI - Interpreting Model Results:

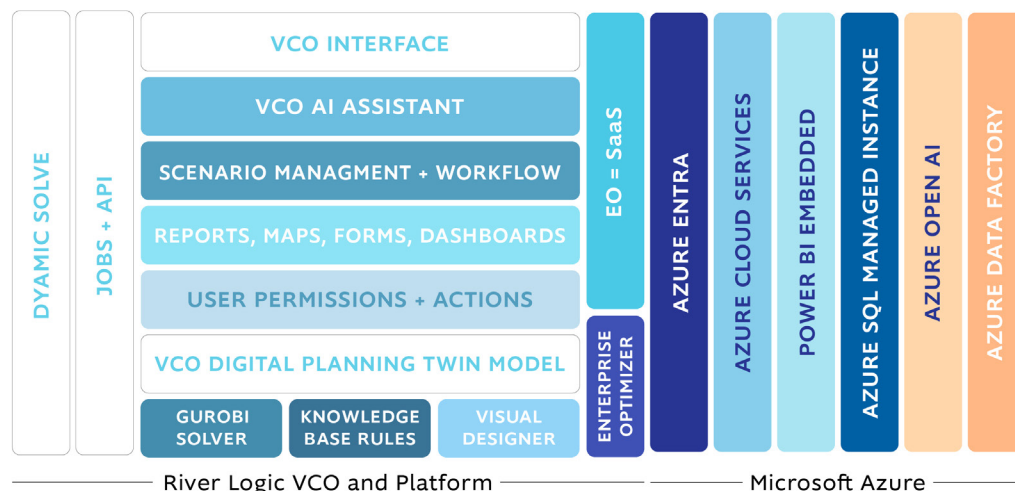
- Enhance analysis through scenario interpretation, differentiation, comparison, strategic simulations, stochastic evaluations, and variable optimization.

Stage 3 Modeling Copilot - Enhancing Model Development:

- Stay ahead with our forthcoming modeling copilot, offering VCO model fine-tuning, advanced solve diagnostics, automated tunings, configurations, data validation rules generation, and data transformation script generation for optimal performance and adaptability. (Future feature details available upon release.)

SOLUTION ARCHITECTURE:

The River Logic VCO solution is designed for scalability and elastic performance, seamlessly operating within the Azure Cloud environment. Through Microsoft integration, it leverages Rest APIs and cloud-based data integration for efficient communication and data exchange. The architecture ensures security with secure single sign-on (SSO) and role-based access control mechanisms, guaranteeing data confidentiality and integrity. Additionally, the solution is built on a scalable and elastic infrastructure, allowing for dynamic resource allocation to meet varying workload demands and ensuring optimal performance.





That is why we are: **REAL DECISIONS. OPTIMIZED.**
Get in Touch with Us, we are Happy to help!



**LET'S SET UP A 15-MINUTE
INTRODUCTORY CALL.**