



SMART TOOLS FOR SMART COMPANIES

SPEND OPTIMIZATION SUITE (SOS)

ISL Analytics' Risk Management & Investment
Optimization Suite

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SMART TOOLS FOR SMART COMPANIES: SPEND OPTIMIZATION SUITE (SOS)

The Spend Optimization Suite (SOS) application supports the Strategic Asset Management Planning process by delivering an optimized portfolio of capital and O&M spending plans. It enables asset managers, planners, and other stakeholders to collaborate to maximize investment portfolio value, considering realistic budget and resource constraints, all while managing risk and driving company strategy.



>20% REDUCTION IN
NON-ESSENTIAL
CAPITAL SPENDING



With a value case to reinvest
18% in reliability and
operational improvements

40% REDUCTION IN
MANDATORY SPEND
DESIGNATIONS



Freeing up discretionary spending
to achieve additional value and
mitigate additional risk

~5% INCREASE IN SPEND
APPROVED BY THE
REGULATOR



To meet compliance obligations
and risk profile objectives, based
on SOS outputs



ISL ANALYTICS' INNOVATION LAB: SMART TOOLS FOR SMART COMPANIES

ISL Analytics develops software solutions and tools to help solve challenges, complementing our consulting services. Our broad industry experience and expertise, combined with in-house developers, results in solutions that are practical and meet real industry needs. These solutions are designed to be "right-sized" for you – configured to meet your current needs and budget, and then grow with your process and data availability over time. We also continually evolve our offerings based on market feedback and observations from our product and consulting staff.

SOS IS A HIGHLY CONFIGURABLE 5-MODULE RISK MANAGEMENT AND INVESTMENT PLANNING APPLICATION. SO, WHAT CAN IT DO FOR YOU?



USE STRATEGY TO DRIVE DECISIONS

- Link strategy to risk management and investment planning decisions
- Set priorities and adjust for sensitivity analyses and business changes



BUILD A PRIORITIZED RISK REGISTER & LONG-TERM ASSET PLANS

- Catalog Asset Health Issues and, optionally, include broader business threats and opportunities for a holistic view
- Use integrated asset data to determine optimal replacement timing and spend profiles based on industry standard curves
- View risk by most likely- and worst-case across multiple time frames
- Prioritize high level solutions and track unmitigated risk in long term plans



RUN WHAT-IF SCENARIOS TO ENSURE OPTIMIZED INVESTMENT PLANS

- Create multi-year investment plans optimized across complex constraints – cost, resource, reliability, region, and more
- Compare scenario results side by side, drastically reducing analysis and discussion time
- Balance spend across regions / districts to focus on poor performers
- Reduce the common bias toward small projects
- Assess investments across fundamental viewpoints – value (benefit / risk mitigation) and risk of deferral
- Better understand and reduce “must do” project designations



IMPROVE COMMUNICATIONS WITH CLEAR AND TRANSPARENT OUTPUT

- Use automated outputs to communicate project selection decisions, portfolio benefits and risk exposure to planners, executives and other stakeholders
- Demonstrate the rigorous, transparent process to regulators
- Drive democratization of data



ENABLE BEST PRACTICES

- Facilitate true cross business-unit optimization in a practical, accepted manner
- Align your process with ISO55000 standards – ISL Analytics is both an IAM endorsed assessor and corporate member
- View risk holistically, in terms of asset issues as well as future business threats
- Link Problems / Issues to Needs to Investments to show a full circle view of overall company risk being mitigated by optimized investment portfolios



WORK WITH EXPERIENCE TO ENSURE SUCCESS

- Benefit from ISL Analytics' 40+ SOS implementations at utilities worldwide
- Leverage ISL Analytics for both its world class SOS software solution and expert management consulting team
- Draw on ISL Analytics' rich industry knowledge and change management experience to support you through every step



GET THE MOST VALUE FOR YOUR MONEY

- Get high-value features (data uploads, custom reports, multi-language capability, etc.) at a reasonable cost AND quick implementation timeframe
- Select the implementation option that's "right-sized" for your needs, with the option to expand in the future
- Grow the application with your company and process via built-in configurability and flexibility



ISL ANALYTICS' CLIENT INDUSTRIES

ISL Analytics provides breakthrough consulting services and cutting-edge tools to utilities and other asset intensive industries.



ELECTRICITY

DISTRIBUTION,
TRANSMISSION,
GENERATION



GAS

DISTRIBUTION,
TRANSMISSION,
STORAGE



WATER

STEAM/CHILLED,
WASTE-WATER,
PRODUCTION/
DISTRIBUTION

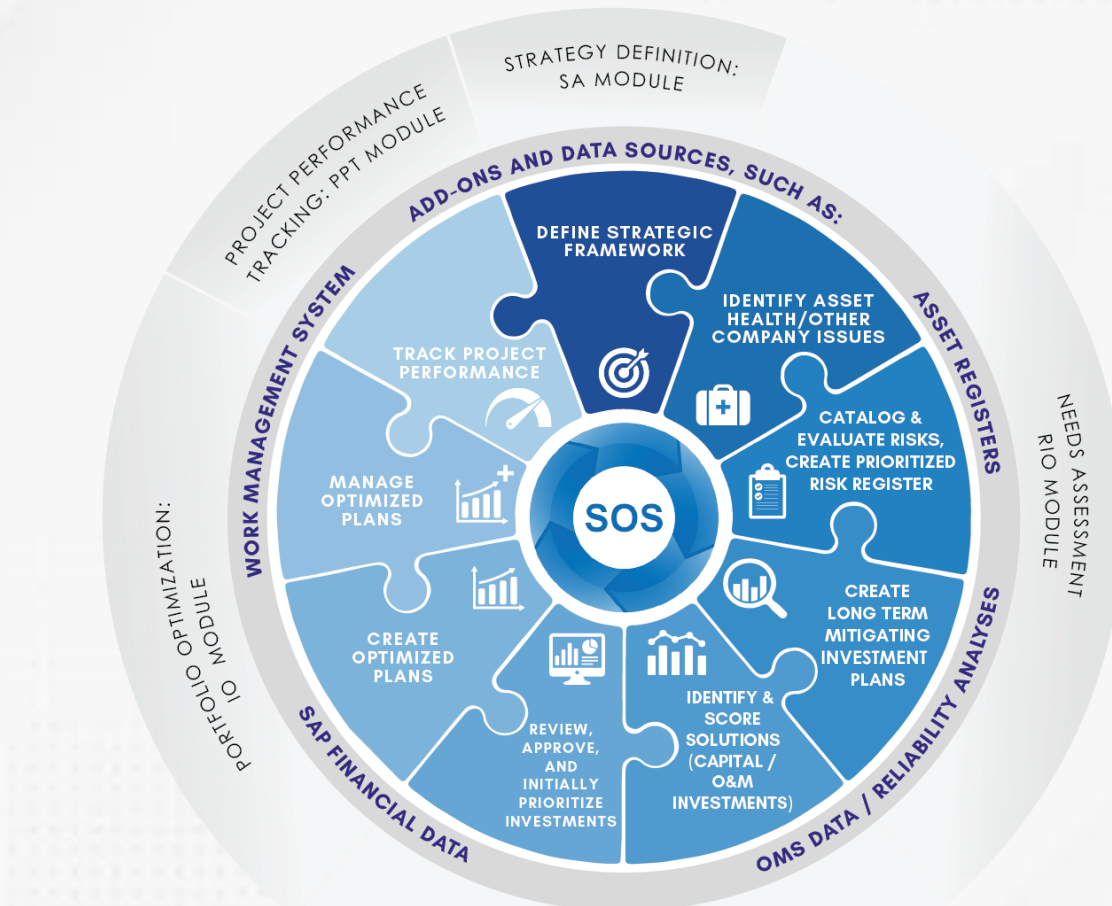


TRANSPORT

AIRPORTS,
RAIL,
METRO

GET EVERYTHING YOU NEED AND NOTHING YOU DON'T

The full Spend Optimization Suite software solution and wrap-around applications support enterprise-wide asset management. The buildable components are designed such that whether you're a small municipal or a large company with multiple subsidiaries, the SOS is scalable to meet your needs.



RISK MANAGEMENT FOCUS:
For a company that needs a Risk Register and wants to ensure it's proposing an investment portfolio to address its risk exposure

PORTFOLIO PRIORITIZATION FOCUS: For a company with limited investment portfolio sizes and customization needs



PORTFOLIO OPTIMIZATION FOCUS: For a company that has larger investment portfolios and multiple constraints and potentially wants to optimize across business units or regions/areas

RISK AND PORTFOLIO OPTIMIZATION FOCUS:
For a company that wants the full line of sight for tracking Asset Issues → Risks → High Level Solutions → Detailed Solutions → Optimized Investment Portfolio



STRATEGIES & OBJECTIVES

Identify Business Values, Drivers & Risk Tolerance



NEEDS ASSESSMENT

Inventory & Analyze Asset Health and Other Issues



Analyze & Prioritize Needs to Create Prioritized Risk Register



Determine High Level Solutions and Create Long Term Plans



SOLUTION PLANNING

Develop & Score Detailed Solutions/ Investments



Review & Approve Investments to Create Pre-Optimization Portfolio



PORTFOLIO OPTIMIZATION

Perform Scenario Prioritization or Optimization Analyses on Investment Portfolio



Discuss Scenario Results to Determine Final Portfolio Plan



PERFORMANCE MANAGEMENT

Measure, Report and Monitor Portfolio Implementation (Actuals, Benefit Realization)



Propose Adjustments in Strategies, Measures and Reassess Risk Profiles



The Spend Optimization Suite (SOS) is not just software – a robust process is part of the overall picture. It's designed to support international asset management process standards, and it's configured to support your process in particular. In any implementation, ISL Analytics experts work with you on process and change management as well as the software itself.

The following displays a summarized Asset Management linear process view and the direct alignment with the SOS Modules.





Each module within the SOS addresses key elements of the asset management decision process with line of sight linkages throughout. The following provides an overview of each module.



SA MODULE: STRATEGIC ALIGNMENT

The facilitation of the executive strategic alignment workshop is often reported as one of the most valuable elements of an SOS implementation. Getting alignment on the company's strategic objectives and especially their relative importance in terms of where to spend the company's money is critical.

The SA Module drives a two-level framework of objectives and relative priorities which is the fundamental building block for all decision-making throughout the SOS application, from creating a prioritized risk register and long term plans to evaluating projects and programs and determining an optimal near term budget.

Increase awareness of company strategy and make achieving it part of everyday business.





RIO MODULE: ASSET ISSUES, RISK PRIORITIZATION & LONG TERM PLANNING

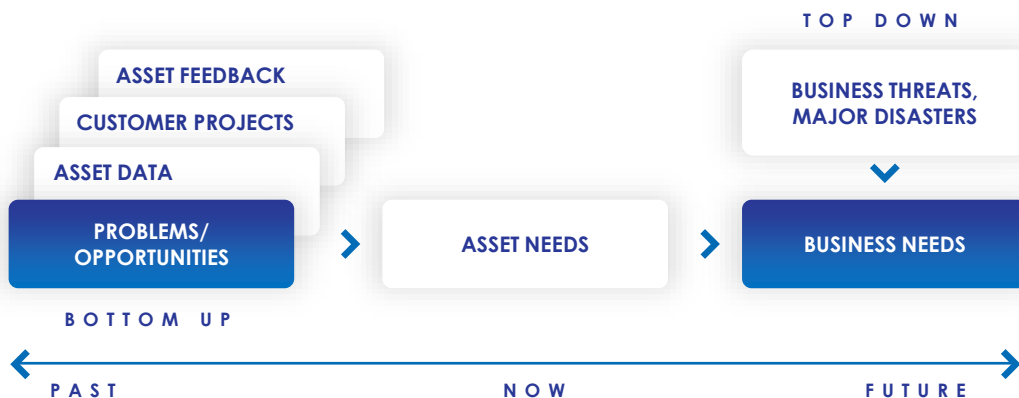
Risk management can improve strategic planning and decision making, especially when implemented as part of a unified spend optimization process. Too often, however, risk management practices are manual and reactive, and risk-relevant information is locked in silos.

As a result, organizations are ill-equipped to recognize critical risks, analyze risk-reward tradeoffs, and respond proactively with cost and benefit justified solutions.

The RIO Module supports the recommended parallel evaluation tracks (or a subset of these) for long-term risk-based planning:

- A bottom-up process collecting asset issues from the day-to-day business operations, analyzing for any asset-related risks.
- A top-down process identifying potential threats (e.g. earthquakes, major floods, and business vulnerabilities) assessing probabilities and consequences.

From here, high level “need based” mitigating solutions can be formulated and prioritized into longer term asset management plans.



Ensure ALL intolerable risks are catalogued and addressed in long term plans and risk-mitigating investments are included in near term plans.





IDS MODULE: INVESTMENT DEFINITION, SCORING, & PRIORITIZATION

ISL Analytics applies an industry leading approach to evaluating investments in the IDS Module, including:

- Value and Risk of Deferral perspectives providing transparency to the benefit – risk trade-off critical to the optimization process
- A simple user interface combined with an underlying robust methodology to differentiate amongst investments
- Use of existing quantitative data wherever possible (e.g. Asset Condition assessments, outage/reliability/capacity data, and financials) for ease and consistency
- Greater visibility into drivers of mandatory investments and programs
- Mechanisms to capture the complexities of reality, such as inter- and intra-investment relationships
- These capabilities, in conjunction with approvals, email notification work flows and customizable reports, result in a powerful set of investment evaluation data.

Use this data to make optimal investment planning decisions via simple prioritizations (often used when investment level is small) or advanced optimization analyses.





IO MODULE: INVESTMENT OPTIMIZATION

While prioritization or heuristic rules are sufficient for smaller portfolios and simple constraint scenarios (i.e. only budget), larger portfolios with complex constraints (inter-investment relationships and/or multiple constraints) require true optimization to produce the best result.

The IO Module's powerful optimization engine makes it simple for users to run what-if scenarios across multiple constraints (Total Cost, Capital, O&M, Scarce Resource Types, Minimum Contractor Labor, Minimum Reliability Improvement, and more). Scenarios may include: Maximize Value to the Company, Minimize Risk of Deferral, Budget Cut, Regional / Business Unit Constraint, Limited Mandatory, and many more.

Easily compare scenarios side-by-side to limit discussion sessions, saving time and effort. This results in a practical and justifiable near-term investment plan.



PPT MODULE: PROJECT PERFORMANCE TRACKING

Aligned with the risk management and investment planning focus of the SOS application, the PPT Module looks at project implementation performance and plan vs. actuals tracking to highlight planning accuracy and whether anticipated benefits were truly achieved. This drives strengthened accountability, as "promised" project benefits are quantified and documented before funding is approved, and actual results delivered by the project manager can be measured and compared to these commitments.

Determine if you got what you expected and adjust accordingly.



VALUE CASE EXAMPLE: USE TRUE OPTIMIZATION AND EFFICIENT FRONTIER ANALYSES TO SAVE MONEY AND REDUCE RISK

Investment Optimization: Achieving More for Less

In this risk of deferral example with a budget constraint of \$90M, we achieve more overall risk mitigation via investment optimization using SOS than by Risk or Risk/Cost Prioritization methods. In addition, Risk/Cost Prioritization fails to select a high-risk investment.

SCENARIO INPUTS				SCENARIO OUTPUTS			
PROJECT NAME	BUDGET COST (M)	RISK OF DEFERRAL	RISK/COST	INCLUDED IN \$90M BUDGET CONSTRAINT:			
				RISK PRIORITIZATION	RISK/COST PRIORITIZATION	RISK OPTIMIZATION	\$82M BUDGET
Project 1	\$11.5	25	2.17	✓	✓	✓	✓
Project 2	\$13.0	25	1.92	✓	✗	✓	✓
Project 3	\$7.2	20	2.78	✓	✓	✓	✓
Project 4	\$8.5	20	2.35	✓	✓	✓	✓
Project 5	\$9.9	20	2.02	✓	✓	✓	✓
Project 6	\$10.0	20	2.00	✓	✓	✓	✓
Project 7	\$15.0	20	1.33	✓	✗	✗	✗
Project 8	\$5.7	16	2.81	✓	✓	✓	✓
Project 9	\$6.2	16	2.58	✓	✓	✓	✓
Project 10	\$6.4	16	2.50	✗	✓	✓	✓
Project 11	\$6.5	16	2.46	✗	✓	✓	✗
Project 16	\$4.9	12	2.45	✗	✓	✓	✗
Project 13	\$2.8	8	2.86	✗	✓	✗	✗
Project 14	\$3.9	8	2.05	✗	✓	✗	✗
Project 15	\$4.0	8	2.02	✗	✓	✗	✗
Project 16	\$3.0	6	2.00	✗	✗	✗	✗

SCENARIO RISK MITIGATED:	182	205	206	186
SCENARIO DOLLARS SPENT (M):	\$87.0	\$87.5	\$89.8	\$81.2

Further, with optimization (compared to the Risk prioritization example), we can achieve more overall risk mitigation (186 compared to 182) for less cost (\$81.2M compared to \$87M). This is a savings of \$5.8M or almost 7%

EFFICIENT VALUE FRONTIER VIEW: ARE WE OVERSPENDING GIVEN THE VALUE RETURN?

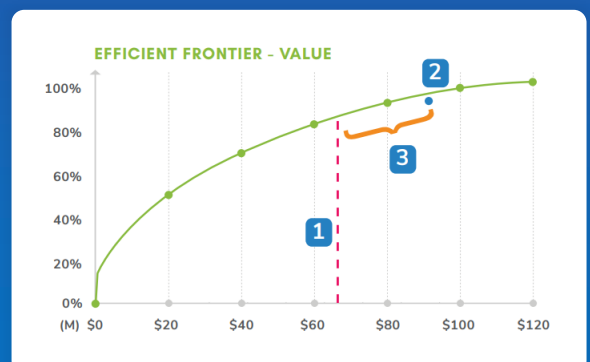
Taking it a step further, let's examine a view of value (benefits) rather than risk mitigation along with our budget constraint. The Efficient Value Frontier shows the maximum value that can be achieved for every dollar spent.

1. The dotted line shown in this chart is a "guideline" efficient budget constraint for the portfolio. It considers: the point where cost starts increasing faster than value plus any additional mandatory investments plus any additional high (red) risk investments.



2. The blue dot represents the performance of the scenario (here a \$90M Weighted Value Optimization Scenario) in terms of the efficient frontier.

3. This frontier chart shows that we are getting very little additional value for the money we are spending beyond the dotted guideline. Using this analysis along with human expertise, we could save up to \$25M and still ensure that we are maximizing value and covering high risk and mandatory investments





“SOS has created a ‘thought revolution’, enhanced the quality of our risk discussion, and has driven our asset investment strategy process into the ‘front lines’.”

“Creating our 5-year plan with SOS was a snap compared to our old way.”

“SOS gave us the elements we needed of an enterprise product on a small-company budget.”

Contact us for more information or a demonstration

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