

Predictive Analytics for IFS Copperleaf Asset





Strategic asset sustainment planning for critical infrastructure

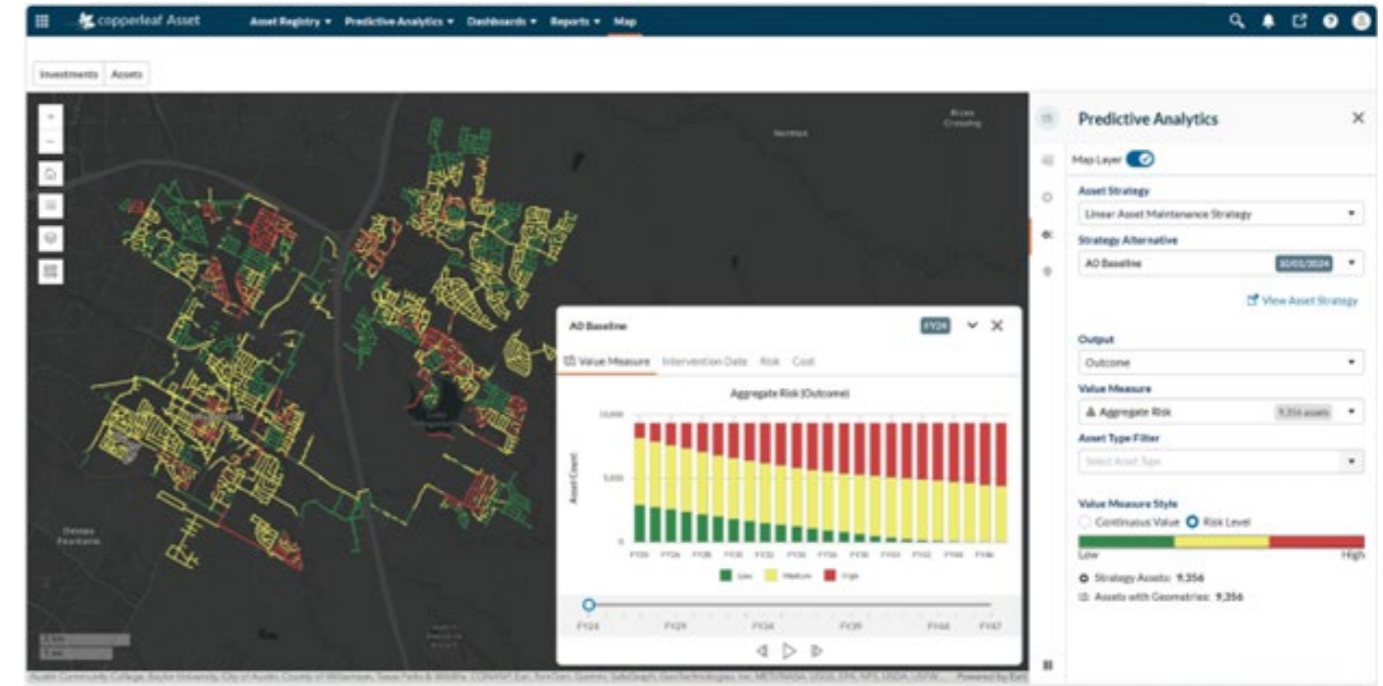
Organizations managing critical infrastructure must continuously determine which assets to intervene on, what type of intervention to perform, and when to act. These decisions span large and diverse asset bases and must balance capital and operating budgets, workforce availability, service-level expectations, regulatory requirements, and defined risk tolerances.

Traditional approaches often rely on age thresholds, condition triggers, or periodic prioritization exercises. While useful, these methods can evaluate assets in isolation, provide limited visibility into long-term risk trends, and may not incorporate funding and resource constraints during strategy development. The result can be reactive intervention, inconsistent trade-offs, and asset plans that are difficult to defend at scale.

Predictive Analytics in IFS Copperleaf Asset enables forward-looking, population-level asset sustainment planning that is economically grounded, risk-informed, and aligned with real-world business constraints.

Lifecycle risk modeling and time-based asset forecasting

Predictive Analytics models how risk, cost, and performance evolve over time for individual assets and across asset classes. Using configurable models from the Copperleaf Value Model Library, it evaluates factors such as age, condition, degradation patterns, probability of



Example of change in mitigated risk with funding reductions

failure, and consequence of failure to forecast future exposure.

This time-phased analysis enables organizations to understand how risk changes if intervention is deferred and how different intervention types—such as maintenance, refurbishment, or replacement—affect the asset lifecycle trajectory. It also considers lifecycle cost and the time value of money, supporting objective comparison between alternative strategies.

The result is a structured, quantitative foundation for asset decision making that extends beyond static condition assessments.

Economic intervention timing based on risk and value

Predictive Analytics supports the determination of economically justified intervention timing by analyzing projected risk growth, lifecycle cost, and performance impacts over time.

Rather than relying solely on fixed age rules, intervention timing can be evaluated based on projected outcomes and value trade-offs. This provides a defensible rationale for sustainment decisions grounded in lifecycle economics and risk modeling.



Multi-constraint optimization within real-world constraints

Asset sustainment strategies must operate within defined business constraints, including multi-year budget limits, workforce capacity, outage windows, and risk tolerance thresholds.

Predictive Analytics applies multi-constraint optimization to develop asset sustainment strategies that balance cost, risk, and performance while respecting these constraints. When constraints affect the preferred intervention timing, alternative schedules can be evaluated to identify feasible options that maintain alignment with defined objectives.

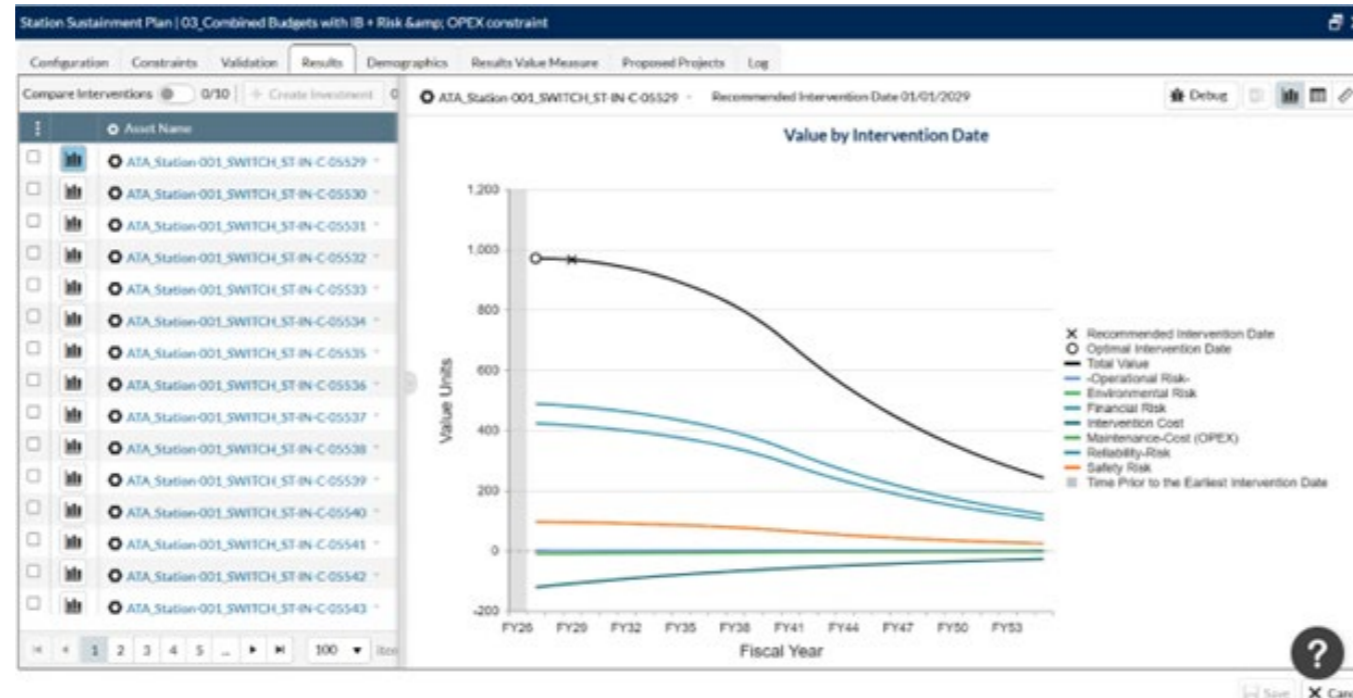
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Risk threshold consideration and regulatory support

Organizations may define unacceptable levels of exposure related to safety, reliability, environmental impact, or compliance. Predictive Analytics enables these thresholds to be incorporated into asset strategy development.



Recommended intervention date by value in Predictive Analytics

When projected risk approaches defined tolerance levels, intervention strategies can be evaluated and adjusted to support alignment with corporate risk appetite. This structured, lifecycle-based approach strengthens regulatory defensibility by demonstrating that investment decisions are informed by quantitative analysis rather than subjective prioritization.

Asset strategies for the next one to one hundred years

Predictive Analytics supports both near-term and long-term planning horizons, enabling organizations to evaluate sustainment strategies over extended asset lifecycles. This provides visibility into future funding requirements, evolving risk exposure, and the implications of deferral decisions.

By combining lifecycle risk modeling with multi-constraint optimization, Predictive Analytics enables organizations to improve visibility into asset risk exposure, develop economically justified intervention strategies, and align sustainment plans with defined business constraints.

Asset managers gain structured insight into lifecycle trade-offs. Planners gain an executable strategy aligned with funding and resource realities. Executives gain transparency into how asset sustainment decisions support strategic objectives.

The result is a forward-looking, value-based approach to asset sustainment planning that aligns technical analysis with enterprise strategy under real-world constraints.

Real-world example: Optimizing a substation transformer sustainment program

“Are we truly managing risk, or just spreading the budget evenly and hoping for the best?”

A regulated electric utility manages an aging fleet of substation transformers. Historically, annual spend has been driven by budget cycles rather than lifecycle risk analysis.

Using Predictive Analytics, the utility models:

- How risk increases over time
- The lifecycle cost of replacement versus refurbishment
- The long-term impact of different annual funding levels

The analysis shows that maintaining current spend would stabilize condition in the short term but allow reliability risk to accumulate beyond acceptable thresholds within 10–15 years.

By evaluating alternative funding scenarios, the utility identifies an optimal sustainment budget that:

- Reduces long-term reliability risk
- Avoids a future “bow wave” of replacement demand
- Maintains compliance with defined risk tolerance levels

Predictive Analytics then applies budget and workforce constraints to determine the most valuable executable intervention schedule.

The result is a transparent, defensible asset sustainment strategy that aligns funding, risk reduction, and regulatory objectives.

About IFS



IFS is the world's leading provider of Industrial AI and enterprise software for hardcore businesses that make, service, and power our planet. Our technology enables businesses which manufacture goods, maintain complex assets, and manage service-focused operations to unlock the transformative power of Industrial AI™ to enhance productivity, efficiency, and sustainability.

IFS Cloud is a fully composable AI-powered platform, designed for ultimate flexibility and adaptability to our customers' specific requirements and business evolution. It spans the needs of Enterprise Resource Planning (ERP), Enterprise Asset Management (EAM), Supply Chain Management (SCM), and Field Service Management (FSM). IFS technology leverages AI, machine learning, real-time data and analytics to empower our customers to make informed strategic decisions and excel at their Moment of Service™.

IFS was founded in 1983 by five university friends who pitched a tent outside our first customer's site to ensure they would be available 24/7 and the needs of the customer would come first. Since then, IFS has grown into a global leader with over 7,000 employees in 80 countries. Driven by those foundational values of agility, customer-centricity, and trust, IFS is recognized worldwide for delivering value and supporting strategic transformations. We are the most recommended supplier in our sector. Visit ifs.com to learn why.