



From field data to  
financial and risk  
optimization.

**HITACHI**  
Inspire the Next



# Asset Investment Planning (AIP)

# Determining how to spend a limited budget is a fact of life.

It's something we all do every day, in small and large ways.

Many of these decisions are made on the fly, through simple brain power, while others might require a little more time and a good spreadsheet, but the essential priorities are often fairly easy to determine.

Utilities make these budget decisions every day as well, but on a much larger and more complicated scale. Maintaining current assets, building new infrastructure to satisfy growing demand, incorporating new technologies into the grid, keeping up with basic internal back office needs, managing regulatory requirements...with so many variables to consider, regulatory scrutiny, and millions of dollars (and customers) at stake, a spreadsheet simply isn't going to cut it.

Utilities need tools that are designed to specifically answer key questions related to risk, budget and projects:

- **For a given level of (acceptable) risk**, what is the minimum budget required? What is the impact of budget reduction on risk exposure?
- **For a given budget**, what is the optimal set of projects to execute? What is the optimal sequence of project execution within a given portfolio? How does the level of risk exposure evolve over time, by risk category, for a given portfolio of projects?
- **For a given project**, what is the best alternative?

These questions aren't new, and utilities have done their best to address them, but their efforts have been limited to "sub-optimal" optimization.



What if you could optimize all of your projects, quickly, easily and automatically, based on facts instead of guesswork?



The solution is closer than you think.

Asset Investment Planning (AIP)  
from Hitachi Energy

# The next step in risk-based optimization.

As a concept, asset investment planning is a fact-based, methodical approach to deploying limited resources in order to achieve outcomes that are aligned with an organization's objectives. Just a few of these objectives might be:

- Public safety
- Customer satisfaction
- Profits
- Reliability
- Good public image
- Satisfying the regulator

For years, the Lumada Asset Performance Management (APM) solution has provided a framework for gathering data, and also supplied expert and machine learning models to recommend both short- and long-term work, prioritized based on risk of failure. These capabilities are essential to effective decision-making at the asset level.

**AIP** is the next step in risk-based optimization: a complete solution that can be applied at both the asset level and the portfolio management level. It's a critical component of asset management in achieving the "from field data to fleet optimization" objective. The application is unique in several aspects:

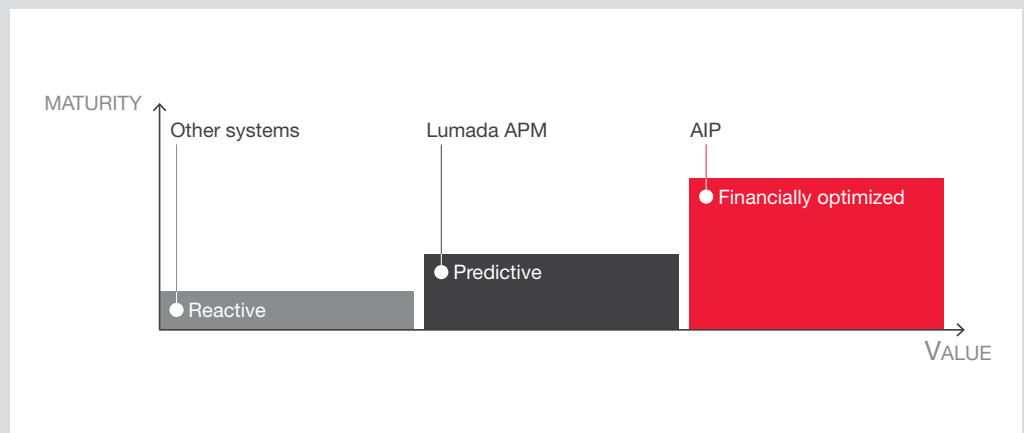
- First, it allows the user (administrator) to define and configure the risk framework.
- Second, the optimization accounts for labor resources.
- Third, the optimization accounts for temporal variations in project execution and provides an optimized schedule that meets multiple objectives.

In addition, AIP allows the definition of multiple project types, such as mandatory, elective, discrete, continuous, dependent and mutually-exclusive. "What-if" functionality allows comparison of various scenarios as part of a study to enable the selection of the best portfolio.

## Why AIP?

APM helps you move from reactive or time-based maintenance to predictive and prescriptive maintenance.

AIP builds on this foundation, providing the functionality to drive long-term financial optimization.



# How questions get answered.

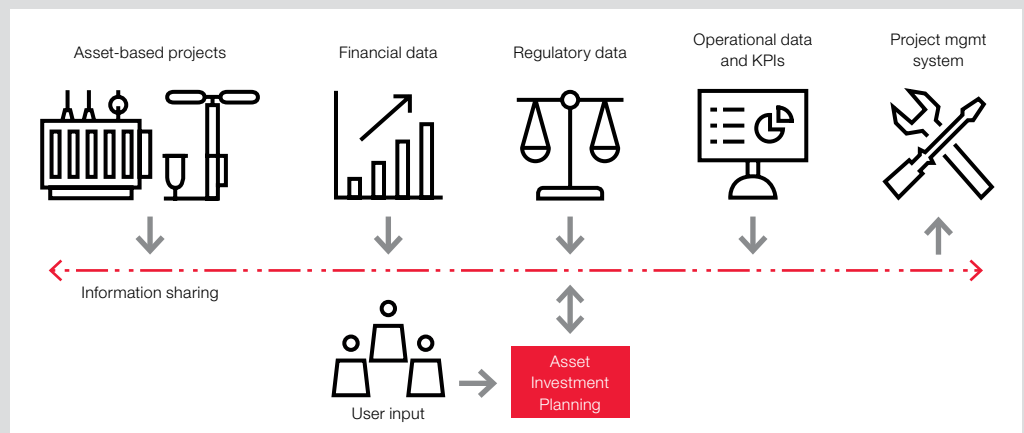
In order to answer the critical risk, budget and project questions identified above, AIP comprises the following essential components:

- **A unified risk framework:** Where KPIs, corporate objectives and risks are defined so that projects across different parts of the organization can be compared on a uniform basis.
- **Project definition:** High-level projects are defined either manually in AIP or by using information from other Hitachi Energy solutions and/or third-party systems.
- **Project alternatives selection:** Users may evaluate the relative merits of each alternative/option associated with a given project and let the optimizer select the best alternative/option based on costs, risks, return, benefits and value, to name a few.

- **Projects optimization:** The optimization engine identifies the best projects contained in the optimal portfolio.
- **Project library:** An archive of past projects and approved capital plans enables users to learn from past projects/plans and even allows comparison of present plans with past plans.

With AIP, users can conduct “what-if” analyses to evaluate how changes to projects affect the overall portfolio and the overall risk. Dashboards make comparisons simple and easy to understand. The output from the system is an optimized list of projects, fully documented and justified, that can be given to regulators as part of the capital budget process.

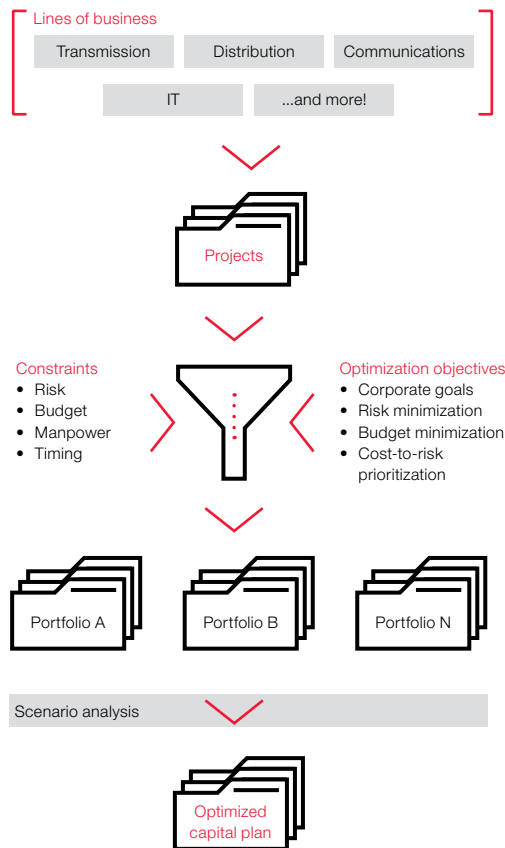
Hitachi Energy AIP data map



# Easy to incorporate into your business.

AIP can be delivered in the cloud or on premises, and companies can leverage the out-of-the-box integration to Hitachi Energy's Lumada solutions or third-party EAM and APM systems for an efficient and expedient implementation.

Portfolio management process:  
Selecting the best portfolio



# An industry first.

A tool to optimize all projects, for all lines of business, including asset management, is an industry first. The need is huge – and Hitachi Energy is ready to fill the gap.

With 125+ years of industry experience, we understand how to build a solution that will actually make a real difference in your day-to-day operations. AIP provides decision support with auditable justification for optimizing spending for capital and other assets, helping organizations to:

- Optimize CAPEX and OPEX effectiveness based on a sound asset strategy (ISO 55000)
- Improve visibility of long-term capital requirements to maintain performance and meet service levels
- Defer capital expenditures with clear understanding of associated risks
- Implement strategies to mitigate risks and improve safety
- Score project performance through metrics within a common risk/performance framework
- Forecast infrastructure capital needs based on optimal allocation of funds



**Every line of business can benefit from AIP; every project can be evaluated.**

Whether it's a transmission business considering building new lines or an IT department seeking a new server farm, AIP helps organize projects, optimize approvals, meet corporate objectives, and ensure stakeholders are satisfied.

**Hitachi Energy**  
marketing-update@hitachienergy.com  
hitachienergy.com