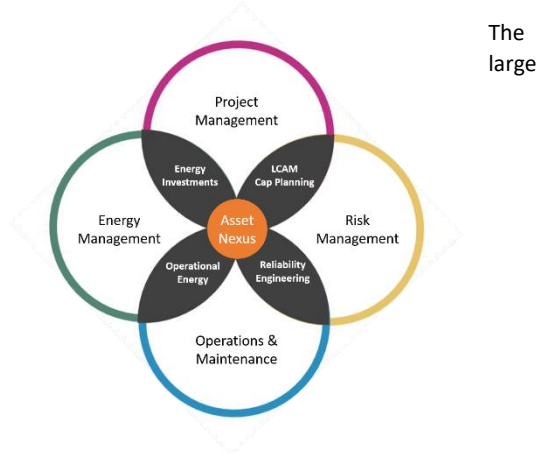


The BAI Approach to Building Asset Management

BAI Model

The **Building Asset Interdependency Model (BAI Model)** is a framework for implementing world-class **Building Asset Management**.



circles represent traditional functional organizations, except that typically a separate Risk Management function does not exist.

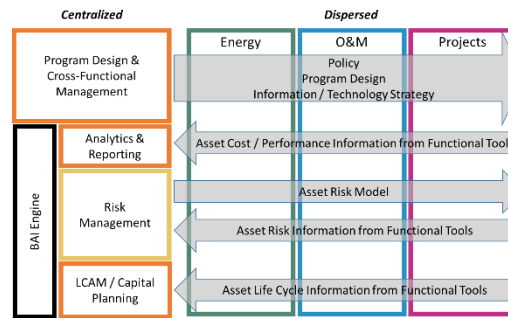
The four overlapping areas between pairs of circles are **programs**. These represent tradeoffs between functions that must be aligned between functions to extract the most value from building assets.

The Asset Nexus is three things:

- A small, dedicated organization that designs and executes the asset management strategy;
- An information/ analytics hub; and.
- A decision-making hub. Better information yields better decisions which produces higher value for the organization.

Asset Management Organization

The BAI Model helps building owners and operators transform themselves from strict functional alignment to a matrix structure in which **a small, central Asset Management organization** plays the lead role.



A typical arrangement is shown here. The Asset management organization – the leftmost column - sets the strategies, develops policy, designs the cross-functional programs in the overlaps, establishes performance metrics, performs analytics and provides reporting. It also performs the Risk Management function. All this gives the traditional functional organizations a consistent strategic direction.

The Asset Management organization is the policy link between a building management organization and senior management.

Culturally, pursuing Asset Management helps an organization to adopt **the Asset Management Paradigm**. This is explained below.

Attribute	Functional Paradigm	Asset Management Paradigm
Scope	A set of discrete activities delivered to functional best practices.	Cross-functional management of assets to achieve optimum outcomes (maximum value contribution to the business).
Technology	Technology supports activities within a functional silo.	Technology helps manage functional activities and captures a comprehensive set of information about assets.
Information	Information is used to manage processes, budgets and performance metrics within a functional silo.	Cross-functional information enables the analytics needed to optimize asset decision-making and to create value in the overlap activities.
Analytics	Analytics consist of reporting functional information or using it to improve a functional process.	Analytics derive insight from cross-functional information that enables better asset decision-making.
Value	Cost savings (e.g. accounting expense reduction) aligned to functional budgets.	The optimum combination of asset cost, reliability and performance, consistent with budget constraints and risk tolerance.

The BAI Approach to Building Asset Management

Information & Technology

Building Asset Management requires targeted, cross-functional information about cost, performance and risk at the asset level. But most building management technologies align to the functional silos and act at the budget level.



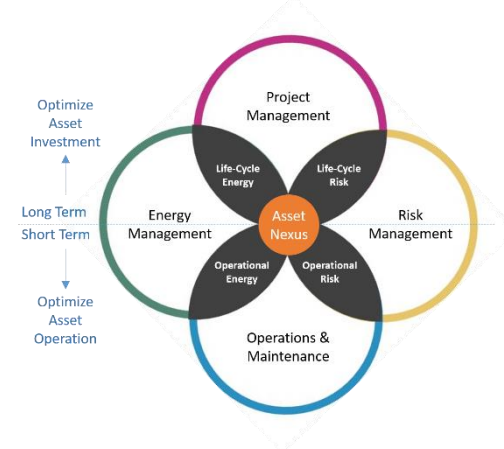
This means that existing functional tools are seldom configured to provide all the information needed for Building Asset Management.

The first step is to develop an **information map**: what will the asset management program do, what information is needed to do it, and where will the information come from? The information map identifies how existing technology tools need to be reconfigured to provide the needed information.

Finally, an information consolidation and analytics tool is needed to make sense of the information. This is the second function of the Asset Nexus. This is the role of the BAI Engine.

Short-Term vs Long-Term

Every business faces the challenge of balancing the short-term and the long-term. A horizontal line through the middle of the BAI Model diagram represents this tradeoff. The short-term is below the line; the long-term is above it.



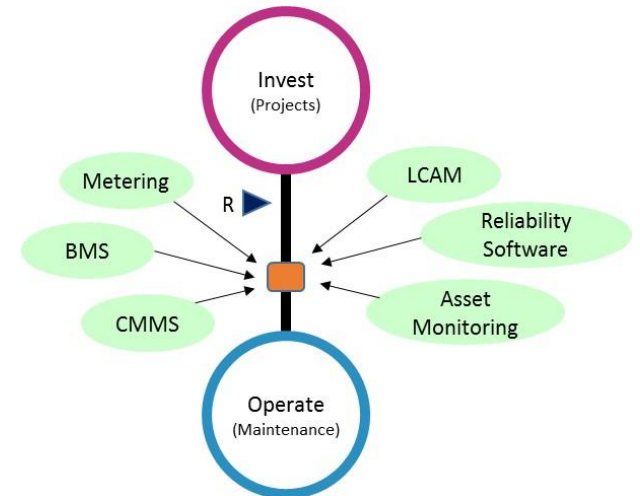
The focus of the organization in the short term is to optimize operation of existing assets; the focus in the long term is to optimize investment in new assets (replacement) or existing assets (refurbishment).

The designations for the program overlaps have been changed in this figure to better represent the tradeoff. For example, Life Cycle Asset Management (LCAM) and Capital Planning are long-term asset risk management strategies; the consequences of the decisions they drive will be felt for the life-cycle of the assets. Reliability Engineering finds the right balance between maintenance cost and operational risk - a short-term focus.

Repair vs Replace

The short-term vs long-term balance culminates in the decision to continue to operate an asset (short-term) or replace it (long-term). This is the overlap between the O&M and Projects circles, where the Asset Nexus lies. Acting as a decision-making hub is the third function of the Asset Nexus.

We can conceptualize the decision based on the figure shown below. Here the repositioned Project and O&M circles are connected by the black line. A "slider" is positioned along the connector based on information taken from the functional tools and run through the asset analytics.



Eventually, the slider reaches the replacement trigger point ("R"). The reconfigured functional tools capture the "right" information per the information map, the BAI Engine applies the "right" cross-functional analytics, in order to make the "right" decisions - decisions that maximize value to the organization.