Driving Measurable Business Value

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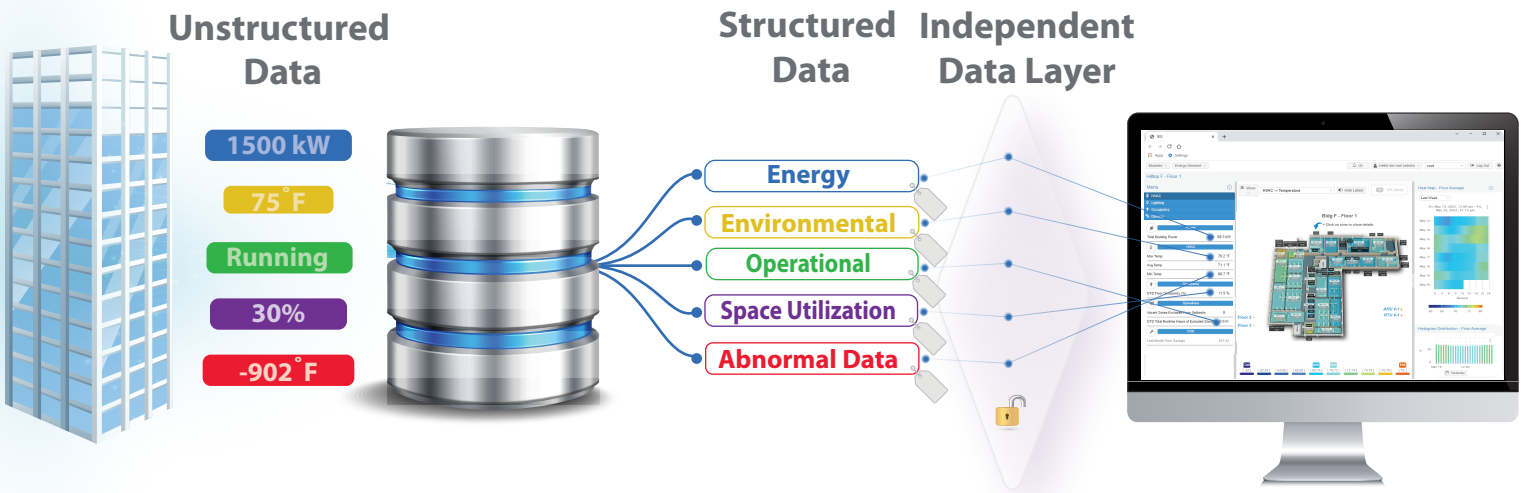
What are some of the requirements to enable smart building automations and analytics?

There are a multitude of requirements for enabling smart building automations and analytics and each building's requirements vary due to site specific factors. For this reason, we are covering a few of the most important requirements based on our experience.



- **Data Aggregation** – Having a process to collect raw data from disparate sources and storing it in a centralized location allows data to be more accessible and effective for further processing and structuring.

- **Structured Data** – Once all the data is in a centralized location the next requirement is to ensure the data is organized appropriately. Often this is achieved by creating a semantic data model, where tagging is used to classify (taxonomy) and associate (ontology) data to give it meaning and context. When choosing what data ontology framework to use it's extremely important to utilize open standards and protocols as this will enable a reduction in costs for future integrations. It is also important to simplify your ontology to the extent possible to that it could be easily understood by others.

- **Data Aggregation + Structured Data = Independent Data Layer –** Having the two requirements above satisfied lead to an independent data layer which essentially enables other applications that are either performing the automations or analytics to understand the relationships between various systems and data points which in turn make them more effective and less costly to deploy.

- **Data Quality –** According to Gartner decision making based on inconsistent or bad data is responsible for $15M per year of losses for an enterprise. For systems to make accurate decisions on when to perform an automation or provide useful insights from analytics they require reliable data. For this reason, it is critical to have a data quality and response program to proactively monitor and handle issues as they arise.

Once the above requirements are satisfied there are various automations or analytics that can now be applied to a myriad of different systems. This enables various benefits for building occupants and stakeholders such as: Reduction in energy usage, increased comfort and health, better space utilization and reduced maintenance and overhead costs.

Occupancy Based HVAC Operations - One practical example of how this can be applied is applying occupancy-based HVAC operations. The analytics would determine what areas in a building are utilizing energy that don't need to be and then inform an automated process to reduce HVAC operations in those spaces. This single strategy alone can save 15% or more on utility costs leading to a 2-3 year ROI and a reduction of 10% or more on operational overhead.

How can you obtain the most value out of smart building automations and data analytics?

- ☑ **Establish a smart building team.**
  This team's responsibility would be to plan, deploy and to extract maximize value from your smart building program.

- ☑ **Ensure you have the right staff, technology, and service support.**
  Staff – Ensure that you have roles and responsibilities developed for the staff managing and Supporting your smart building program.

- ☑ **Technology – Ensure that you have the proper technologies in place.**
  Service Providers – Ensure that you have strong service support.

- [x] **Ensure you have IT experts on staff.**
  Appoint a primary IT representative to support your smart building program to ensure that network issues can be resolved in a timely manner to avoid unnecessary downtime. Having a team member whose job it is to collaborate between terminologies, principals and objectives can often make the difference between success and failure.

- [x] **Create and maintain a change management process**
  Following defined change management procedures avoid your smart building program getting outdated.

- [x] **Invest in data quality monitoring, repairs, and responses.**
  This investment leads to accurate, validated, and reliable data which sustains your original technology investment.

- [x] **Utilize continuous commissioning technologies**
  Having continuous commissioning technology processes in place ensure that your systems are working as they were originally designed and help to identify issues as they arise.

- [x] **Prioritize insights and determine action plans**
  Prioritizing insights from analytics provides a structured approach to understanding which insights carry the highest value making it easier to determine which ones to act on.

- [x] **Establish Program Goals and Track Progress**
  Establish goals and assign key performance indicators to measure progress.

- [x] **Communicate and Collect Feedback.**
  Communicating achieved value of the program allows others to understand the achieved value and provides a mechanism to receive feedback which then could improve the program.

- [x] **Create, collect and update documentation**
  Having strong documentation related to your smart building program could save thousands of dollars from having to recreate or bring others up to speed on the state of your building.

- [x] **Address skills and time shortages**
  Lean on your smart building solution providers to address skills and time shortages issues as often as possible. Many times these are resources are underutilized and can be a means of offloading existing staff.