# Master Systems Integrator Checklist

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The Master Systems Integrator (MSI) is integral to maintaining a dynamic and reactive building.

As office space occupancy levels change, new sensors and systems must be integrated so that the building systems are able to adapt and correct properly for changing patterns. Energy performance and the single pane of glass is no longer the key factors for a performance building. Now, even more systems must be able to synchronize and employ flexible strategies to achieve loftier objectives including the health, wellbeing, safety, and productivity of the occupants that directly contributes to the profitability of the business.

- **Payroll**
- **Utilities**
- **Real Estate (Rent)**
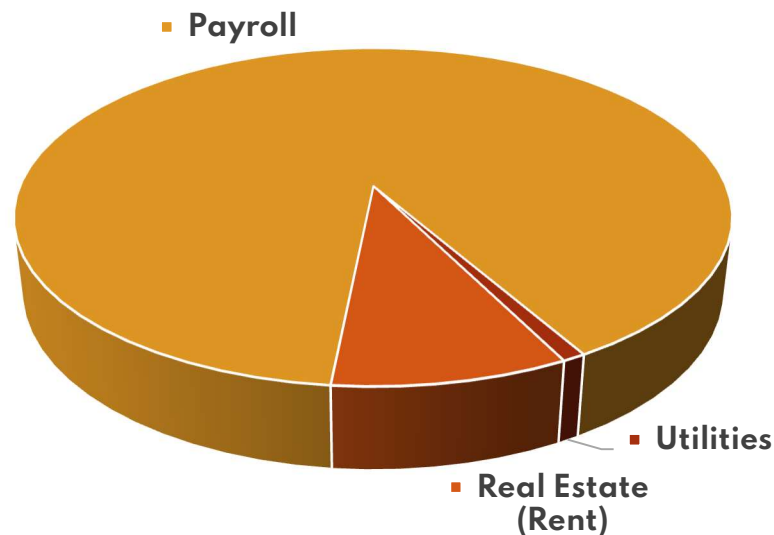
The demands on an MSI are now much higher. There is a now common rule deemed **3/30/300**, referring to utility costs, real estate costs and payroll costs per square foot respectively (source: Jones Lang LaSalle). Previously, an MSIs determination of performance was primarily energy reductions and operational efficiency, the 3 out of the 3/30/300 rule. Today, an MSI must support and

enhance the productivity of the occupants and the value of the real estate asset which effects the 30 and 300 costs and has a bigger impact on the bottom line.
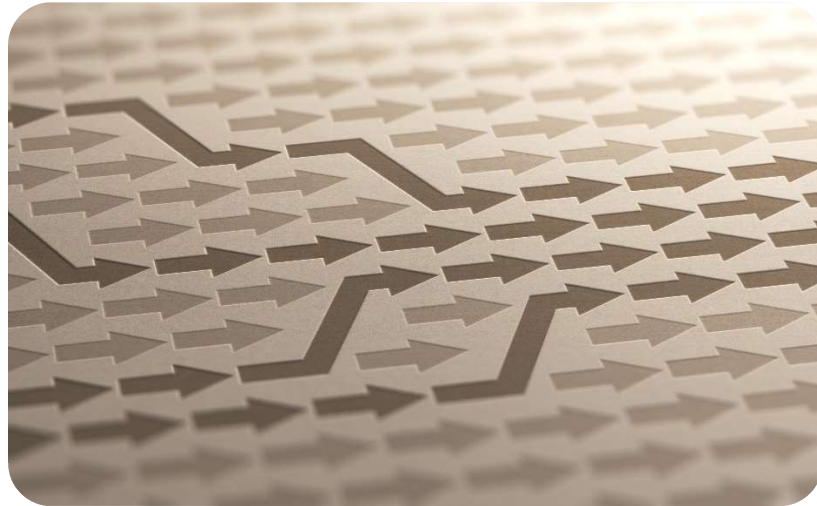
There is much at stake and an MSI needs to be agile and responsive.
More than ever an MSI extends beyond a service provider and becomes a consultative partner to the business.

To accomplish these objectives, a MSI must be

      free of conflicting corporate obligations,

      be able to develop in house integration software applications,

      be experts in every field of system they are integrating,

      and customize a solution for their clients with no compromises.

The MSI role is changing from a service that organizations tack on to their offering list, to a dedicated elite and agile team. These demands are obviously high, so not every MSI will be able to bring their clients this new level of performance and intelligence. To keep focused and true to the obligations of their clients, an MSI should be reviewed with the following checklist.

MSI Checklist:

☑ **Have IT experts on staff.**

      IT/OT convergence is an unavoidable collision of technology groups within a facility. Having a team member whose job it is to collaborate between terminologies, principals and objectives can often make the difference between success and failure.

☑ **Have experience with LEED.**

This does not necessarily mean that everyone on staff needs to be a LEED AP. It's important to note that LEED is an overarching certification and expertise in LEED areas related to smart buildings is the objective.

☑ **Have experience with WELL and RESET.**

Healthy buildings are quickly becoming the differentiator for performance CRE. Make sure that the concepts for healthy buildings are baked into an MSIs products and services.

☑ **Have in house development staff that are fluent in traditional programming languages (C, Java, Python, etc.).**

This is often the biggest difference between a systems integrator and a master systems integrator. These skill sets drop the barrier to any integration and open the broad horizon of integration opportunities.

☑ **Have in house database experts.**

Smart Buildings are all about data. Before you can use a collection of data in an optimal way it must be efficiently stored accessed and tagged. Beyond a general expertise, there is an emerging need for shared database technology that an MSI needs to be proficient in.

☑ **Have experience with cloud and on-premise servers.**

Using an off-the-shelf cloud solution or hosting an integration platform on a cloud server does not cut it for demanding clients. Cybersecurity and data privacy require host-anywhere solutions with customized server configurations to suit an organization's infrastructure needs.

☑ **Have cybersecurity expertise.**

An MSI must be ready for any cybersecurity threat and work closely with IT departments to address any need or customization.

☑ **Have experts in environmental quality.**

The workplace quality is now in the spotlight as high performance collaboration spaces increase in quantity and importance. An MSI should not just be able to be an expert in air quality like CO_2, PM2.5, and TVOC but also in lighting, sound and other environmental performance metrics.

☑ **Have lighting experts on staff.**

Lighting can be overlooked as an area of expertise for an MSI but digital lighting systems frequently serve as the beach head for smart buildings and future IOT system implementations.

☑ **Have HVAC experts on staff.**

This is usually not a difficult box to check for most MSIs but be cautious because an energy expert is not an HVAC expert and vice versa. Thorough knowledge and experience in both areas is vital.

☑ **Have in-house Artificial Intelligence capabilities.**

In order to be ready for the future, an MSI must be ready for the next wave of technology.

☑ **Be system manufacturer and vendor agnostic.**

An MSI should be open and unbiased when presented with evaluating solutions for a client to deliver the optimal un-skewed objective.

☑ **Be an independent organization.**

Occasionally MSIs are born as part of a larger organization and unfortunately this can frequently come with obligations and divergent objectives.

☑ **Provide ongoing lifecycle services.**

Make sure that an MSI will stay with you for as long as needed in a complete or partial support capacity.

☑ **Be an organization that can make a single client their highest priority.**

The responsibilities and demands on an MSI can be extreme and a client should trust that when the need arises, they can be the critical focus.

☑ **Be much more than an energy expert.**

Energy as a focus is not a bad thing at all, but an MSI needs to be focused on energy as well as host of other topics.

☑ **Have your own integration platform.**

The last thing a client wants to hear is "we can't do that". When an MSI develops their own software and their own database then they are in charge of customizations and can escalate changes on their own timelines.

☑ **Combine toolsets and expertise.**

> The resources of human knowledge and experience in the CRE operational technology sector are shrinking rapidly. We can use cutting edge tools to scale and immortalize this wealth of intelligence, but one side of this equation does not work without the other. An MSI should have top end analytics AND knowledge experts.

About IBIS: IBIS offers a full suite of products and services to support our clients at the single building or enterprise global portfolio scale. Our expertise and experience include occupant health and wellness, productive environments, space utilization, energy optimization, demand response, and critical system monitoring among many others with no preference to any hardware or software vendor. Our ability to integrate disparate digital systems as well as facilitate the collaboration across organizational silos, creates a strategy for a successful project that we see through personally from inception through to the extent of the system life.

About the author: Jason Whipple has 20 years of experience with CRE systems engineering and managing integrated building solutions for Fortune Global 500 companies. Jason has worked on designing and building multi-discipline integrated eco-systems capable of meeting customer's short- and long-term needs and has practical experience delivering enterprise-level OT and IT convergent frameworks. Jason prides himself in developing creative ways of combining Edge and Cloud based solutions for optimum systems performance to result in tangible ROI, and architecting integration platforms that are able to quickly adapt to new technologies and ever-changing business needs.