

Bridging Technology Innovation and Real-World Business Value In The Building Systems Arena

The Advent of Smart Buildings

The vision of the “Intelligent Building” has been around for some time now, but it is very loosely defined and is often confused with other buzz-words of the future, like “Home Automation.” Simply put, an Intelligent Building is a structure in which sensors, switches and systems contained within the building’s infrastructure are networked, and can communicate with each other and with a human operator through a monitoring or control interface. While this may seem relatively straightforward, like most things, it is far more complex when put into practice.

The building market includes leasing agencies, property management companies, owner/operators and developers. This market is focused on building tenants and residents and is therefore service-oriented. Building managers greatly benefit from networking and traditionally have applied automated systems for HVAC, lighting, power devices, security and fire/life safety systems. Forward-looking building managers are seeking cost effective means for better coordination of traditional systems while linking in other systems, such as parking, that have historically been stand-alone. In parallel, the latest wireless technologies simplify installation and reduce the costs to connect a wide range of additional devices including remote sensors. As costs of networks and associated monitoring and control systems continue to drop, the potential market in smaller buildings including residential properties increases dramatically.

Building managers will look to use Internet-enabled devices and systems based on open standards, provided they are reasonably priced. Building and facilities managers continue to invest in device networking capabilities to enhance the environment for tenants as well as assess their needs.

Key Forces & Trends

There is a growing realization that adding more devices can create “information overload” and solutions at the device level such as event-driven communications as well as data management middleware are being promoted as solutions.

The desire for simplicity and uptime is largely driven by smaller staffs with less technical ability. In the case of asset management and support coordination, the objective is to fix problems remotely, or if that is impossible, to dispatch a person with the right expertise, tools, and

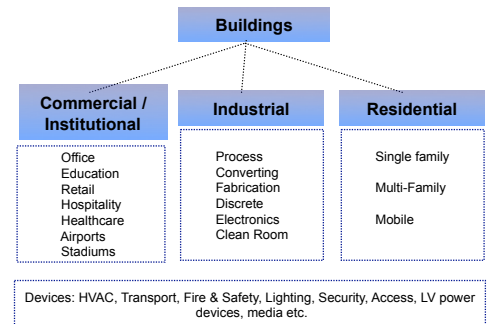
Harbor Venue Coverage

Venues and markets we address in our Pervasive & M2M research and analysis include:

- Energy & Power
- Industrial Systems
- Retail
- Smart Homes & Buildings
- Healthcare
- Physical Security
- Transportation
- IT & Comms Systems

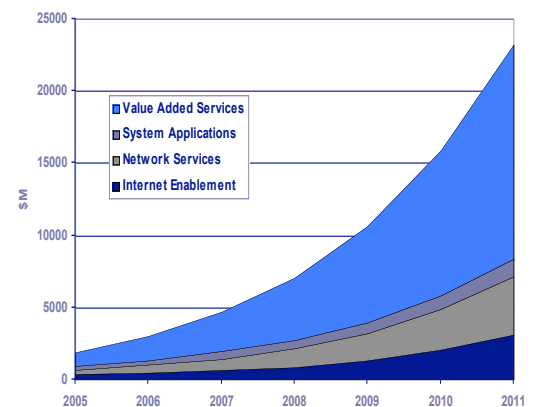
Building Venue Segmentation

The Buildings venue includes HVAC, security, lighting, fire suppression, water, and other alert and building systems. These services are built to automate and react to environmental conditions as well as to enable interactions between systems and people.

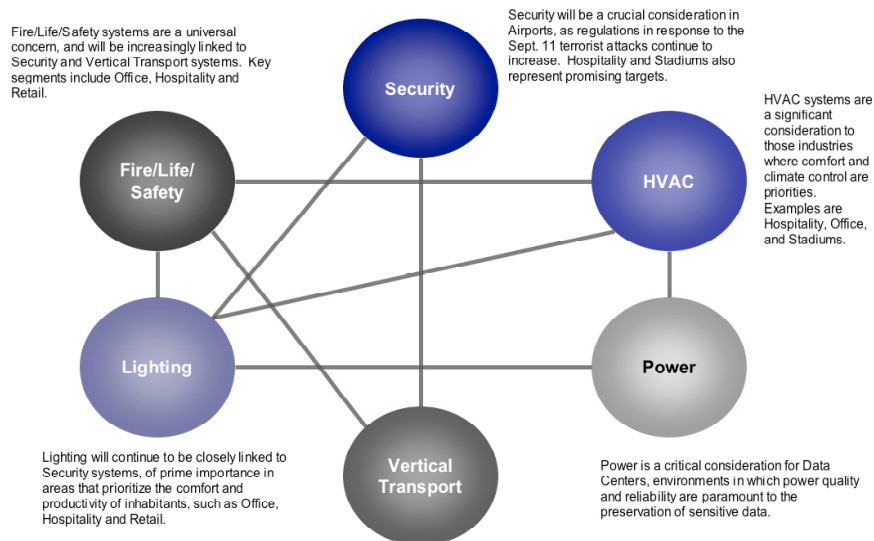


Venue Scale & Growth Potential

Across all venues, Harbor forecasts device unit enablement growth in excess of 60% compounded annually - value added, managed services within the buildings venue could grow to as much as \$12 billion by 2012



parts. Traditionally, developers and building managers have networked devices to remotely control and regulate the health and energy consumption of building systems. While this remains a key concern, new demands from power suppliers have prompted interest in more advanced systems that do a better job of balancing environmental comfort while minimizing energy usage.



The fundamental difficulty in achieving Building Intelligence is communication, and this problem can be broken down into two types of instances. The first issue is compatibility – for example, because the same company that makes light switches doesn’t also manufacture water boilers, there is no reason these two devices would have been built to speak the same language. The second issue is connectivity – that fire alarm in the bedroom that came from Walgreen’s and runs on a battery is only screwed into the ceiling; it is not connected to anything else.

Today more than ever, there are a number of solutions that address these challenges. In fact, many experts would say that the biggest roadblock to wider adoption of Intelligent Building systems no longer has to do with technology; it has to do with adopters. The customer community of building owners, operators, and tenants is not structured to encourage adoption and investment in these integrated systems, and moreover many of them do not fully comprehend the benefits that can be achieved.

The building systems venue is driven by a very complex set of relationships between and among various equipment, services, channel and value-adding businesses. The biggest question that remains is whether these existing resources have the true wherewithal to bring new Pervasive and Smart Services capabilities to market.

We Clarify the Business Value

We understand that most potential adopters see the M2M / Pervasive Internet world as a daunting terra incognita. The technologies are difficult, the standards are constantly evolving, and the vendor landscape can seem fragmented and bewildering.

We make industry knowledge a key element of our toolkit. In order to keep ourselves fully up-to-date we perform continual analysis and research into specific markets and the maneuvers and strategies of the best performers. Our ongoing research gives us a rich context in which to view each client’s opportunities and challenges.

We have direct consulting experience with virtually all the supply side and adopter segments within the over buildings arena

About Harbor Research

Harbor Research, Inc. has been providing strategic consulting and research services to leaders in communications, computing, control, equipment and content since 1983. Harbor’s keen eye toward market results is manifest in all of our processes and tools, providing clients with the perspective they need to make best-informed decisions. We emphasize interactive analyses, the incorporation of outside perspectives, time-efficient workshops, and action-oriented decisions. Our multifaceted approach, ranging from the research we publish to the fully customized consulting engagement, provides optimal value to our clients and has also allowed us to develop important advantages as a firm.

Contact Us For More Perspective

For more information, call us at 800.595.9368 x23 (outside the U.S., 415.615.9400 x 24), or send email to info@harborresearch.com.