**PROBLEMS OF INTELLIGENT BUILDINGS**

Among the efforts to make buildings more manageable, it has been mapped out a monitoring and control scheme that includes HVAC, power production, lighting, elevators, safety, and security. Such schemes can be complex. They involve computer simulations tied into building control systems and updated by sensor feedback and performance data. Sensors keep tabs on virtually anything that can be monitored, whether mechanically, magnetically, electromagnetically, thermally, optically, chemically, biologically, or acoustically. The conglomeration of sensors packed into intelligent buildings is increasingly accessed via wireless networks. Many of the problems that undermined earlier attempts at smartening up buildings, including complexity, incompatible and failure-prone components, difficult operation and troubleshooting, flawed or outmoded operating parameters, threaten to compromise the next generation.

There is also a heavy reliance on commercial information technology systems, including complex wireless networks and communications, database and operational software. Much of the standard computer technology that has fueled economic productivity in recent years while introducing its own incompatibilities, inconsistencies, and vulnerabilities which figures in intelligent building scenarios. Many schemes amount to overkill, deploying too many sensors and gathering too much data, rather than narrowing in on key performance measures, atmospheric conditions, and other variables, and channeling the flow of air or people to a few monitoring areas.

Unfortunately, complicated installations and connections, as well as increased costs and performance failures, all too often result in dissatisfied customers. The biggest problem has turned out to be not only that traditional coaxial cables are difficult and costly to work with, but also that multi-vendor, multi-function networks are inflexible, expensive, and mutually exclusive. It is important for the owner to realize communications systems, FAX machines, energy management and computer systems all need to work together. All too often this has not been the case. Repetitive, complicated installations can fatally disrupt a business trying to keep up with changes in the high-productivity communications field.

Conservation and crime prevention soon became a system capable of sophisticated telecommunications and data processing.Today's communications environment includes voice (telephone), data (networking computers and workstations), written and graphic communications (FAX machines), inter- and intrabuilding video systems, and many others. Private branch exchanges (PBX), office automation equipment, and computers are all put in the same building and are forced to all communicate with one another. Because of this new hardware and the vendors who sell it, owners must be aware of increasingly high standards set by both the telecommunications business and building tenants.

Sustainable development and intelligent buildings are becoming one of the current highlights in the construction industry. However, these concepts appear to be more popular with researchers and academics than with building professionals. As new products and technologies are emerging, this problem seems to be more evident as the gap widens between available intelligent building technologies and the actual number of buildings incorporating IB concepts.

There are many possible reasons for this gap. One of them is the lack of information and understanding of intelligent buildings among owners and developers of commercial buildings. Developers, with typical least cost mentality, often consider intelligent buildings expensive to build and maintain. They lack true understanding of the IB technology. Very often they are not well informed of the lifecycle costing of the project. As a result, these decision makers often fail to consider the efficiency and flexibility that intelligent buildings can bring to their tenants and users, which will increase lease potential. In addition, as architects and engineers develop new designs of flooring systems and energy saving HVAC components, there are no appropriate channels for the dissemination of these new concepts to would-be users and developers. At the same time, building contractors feel reluctant to take on these concepts in their products fearing that it will make their job more difficult and increase project risk and costs. Again, lack of knowledge and appreciation of intelligent buildings plays an important part.