

## ® Smart Building Solutions.

A smart building is a term widely used today to refer to the use of technology in providing:

Communications “Telephony, Internet access & Video”,  
Security “CCTV Surveillance & Access Control”,  
Energy saving and Resource control “Electricity, Lighting, Lifts, Heating, ventilating, air conditioning, water, Gas and oil”,  
Car park management and utilization,  
24/7 monitoring, operating and facility management,  
Billing services to modern or modernized facilities.

These facilities could be offered to Commercial, Residential towers, Hotels, Hospitals, government buildings, or any other type of building.

From the above definition, it is clear that the scope of intelligent building is wide and diverse. Regardless of this diversity, building owners are motivated to implement such services in various degrees by the following:

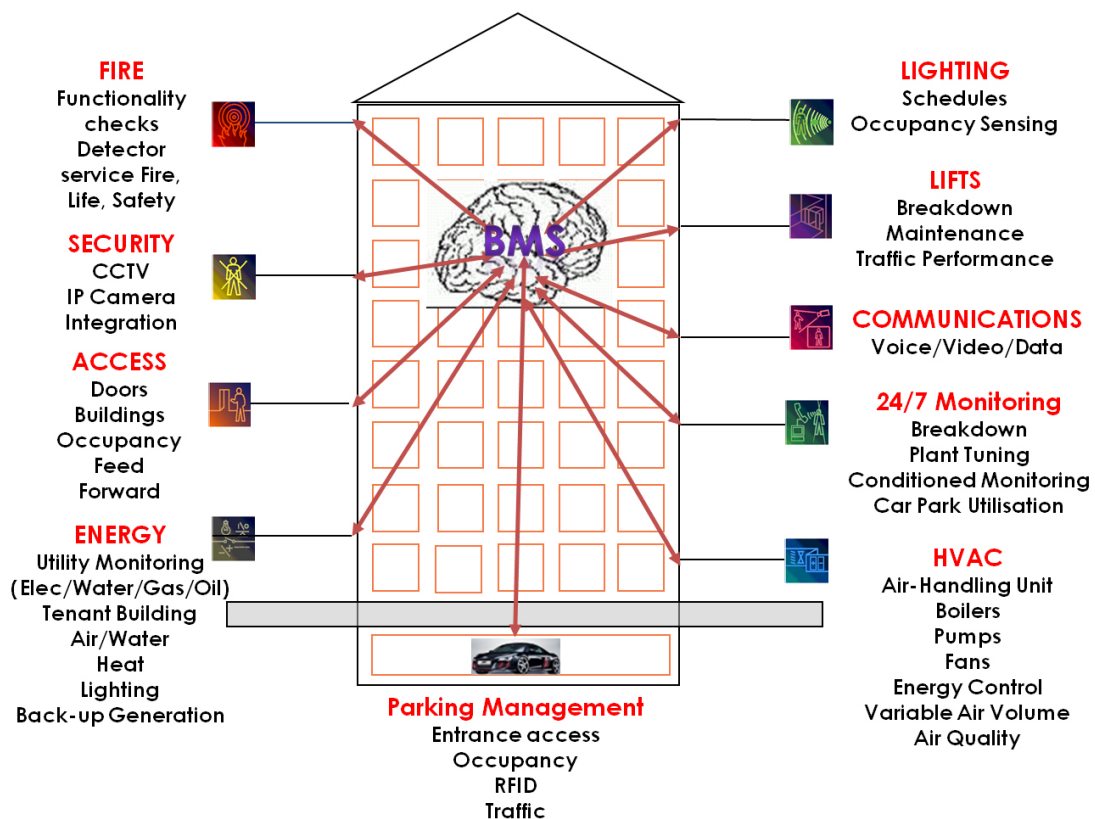
- ▶ Providing tenants with modern and secure communications and information capabilities along with other comfortable lifestyle services that allow owners to charge higher rental rates and get better return on their investment.
- ▶ Providing facility owners with efficient and cost effective tools to operate the facility reducing the ongoing operating costs and raising their profitability rates.
- ▶ Allowing facility owners to meet the ever evolving strict environmental regulations imposed by environmental, municipal, and governmental organizations on a worldwide basis.
- ▶ A direct result of the above is higher ongoing revenue facility that benefits the financial results. And in turn can add value in any selling transaction.

With the above in mind, Tawasul Services set its Intelligent Building services strategy and built its capabilities and partnerships that facilitate the implementation of facilities owners' vision and long term business objectives.

## © Tawasul Vision of Intelligent Building Services

Though the current implementations of intelligent buildings cover many technologies, products, and services, Tawasul believes that these are only limited by the ever evolving imagination of both tenants and owners to meet ever evolving needs and ways of new life styles. The following diagram outlines Tawasul's vision for building intelligence where the basic building blocks are shown. As said, the variations and developments within each area are only limited by evolving technologies, needs, imagination, and new deve

### Tawasul Smart Building Services



## + Intelligent Building Services

Tawasul's list of identified intelligent building services includes the following categories:

## **Communications & Connectivity**

- Data, Voice, Video networking
- LAN, MAN, WAN Network
- Wireless Networking
- IP Telephony & unified messaging
- Digital Public Address
- Digital Video Systems
- Audio-Video Multimedia & streaming Systems
- Conference Rooms and Auditorium
- Satellite Systems & Trunk Radio
- Carrier Class Network
- Triple-Play Services and Converged Networking
- Structured Cabling Systems

## **Security**

- Access Control
- Surveillance
- Biometrics Security System
- Bollards and Ramps
- Scanning & Detection Systems
- Visitor security Management

## **Lifestyle and Infotainment**

- Unified Identification Systems
- RFID implementations
- Portal Systems
- Smart Office/Home Systems
- Voice-Activated Systems
- Payment and Loyalty Systems
- Digital Display System
- Point-of-Sales (POS Systems)
- Pedestrian Movement Statistics
- CRM Systems (Customer Relationship Management)
- Outsourcing & Operating Services (Infrastructure & Business Process).

## @ Building Automation & Management

- Smart Building Management Systems
- Facilities Management
- Property Management
  
- Intelligent Car Park System

Each of the above areas has multiple options and implementation variations to meet the specific requirements of each project or venture.

The above understanding of technologically connected buildings is known today as **Building 2.0**, a vision that intricately intertwines buildings with Internet technologies. It is a vision that the future of buildings is one which is controlled, managed and connected to the Internet in a way that goes far beyond simply placing a web server to the control system or in the use of IP.

**Building 2.0** is a vision about how Information and communications technologies are transforming how building systems connect to each other and how the limitations of traditional integration are eliminated to reach better levels of building control & management.

## + Tawasul Services Spectrum

**Tawasul** views that the spectrum of services that is required by Intelligent Building Services falls under three main categories as shown in the following diagram:

**CONSULTING**

**IMPLEMENTATION**

**OPERATIONS**

CONSULTING

Tawasul chose to cover the two left & right areas of the services spectrum. The product & solution delivery shall be filled by the many specialized vendors in each area of product specialty.

## @ Tawasul Consulting Services

Consulting services aim at helping project owners, project managers, and designers to:

- Identify their intelligence requirements for each project according to its unique status.
- Select the best cost effective solution in each area.

Supervise implementation and commissioning of various services.

The following services are provided at various phases of the business cycle that best starts from the early conceptual design phases:

- Smart Services & Network Infrastructure Design check & approval.
- Preparation of tender documents & recommended needed budget approval.
- Issuance of tender document and management of tender process.
- Evaluation of proposals (Technical & Financial) and selection of bid winner.
- Check and approve draft contract.
- Contract negotiations with bid winner.
- Check & approve field work program.
- Project implementation & contract execution supervision
- Supervise & approve of project hand over.

## **Tawasul Implementation Services**

Operations services aim at helping project owners to:

- Procure products and/or services.
- Install, implement and commission products and services.
- Provide user training and knowledge transfer.

Implementation services are provided with the following guidelines:

- Procurement services are optional. Clients may choose to subcontract Tawasul to procure and deliver products and services according to the terms & conditions of the tenders

or RFP's developed during the Consulting services, or seek procurement through third party vendors. In both cases, Tawasul shall help clients secure best commercial terms and conditions.

Installation and commissioning is yet another optional service that can be provided by Tawasul. Clients may choose to appoint third party auditors to evaluate Tawasul deliverables.

## **Tawasul Operations Services**

Operations services aim at helping project owners to:

- Efficiently manage the technology infrastructure of the project(s).
- Provide technically experienced buffer & comfort zone for owners to handle the complex nature of today's facility management operations.
- Improve the profitability of the investment.

One or more of the following services are provided during the project operations phase:

- Integration of all systems.
- Remote operations and optimization.
- Facility & maintenance management around the clock.
- Energy information and management systems.
- Continuous comfort monitoring and feedback.
- Business reporting.
- Tenant portals.

## **Tawasul Services Unique Capabilities**

**Tawasul** is keen to build the optimum setup to deliver the spectrum of intelligent building services. Tawasul setup depends on two capabilities that provide Tawasul with a very unique position:

## **Professional Team**

Tawasul has built the professional, qualified, and dedicated team to cover the various Intelligent Building specialties:

- Telecommunications & networking.
- Voice services, analog or IP.
- Security & access control.

IP TV and public address services.

- Building management systems.
- Control rooms and management.
- Integration & facility management.

## **Conclusion**

Tawasul has taken a bold step to develop new approach, services, and offering for the real estate market. Tawasul value chain starts with the early conceptual design phase and does not end with the on-going operational phase. Tawasul, throughout all phases of the engagement, act as the trusted advisor for the project owners. In addition, Tawasul is enabling its team of professionals to stay at the edge of technology in order to help clients focus on their core business capabilities and improve their bottom line.