

Intelligent Making of Energy Efficiency in Future Housing with a Focus on Human

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ABSTRACT

Climate change and the imbalance in the biological system and its effects on the green planet have been issues and concerns of the international community. Fourth International Congress on Climate Change report was announced. Between the years 2004-1970 the harmful effects caused by man is seventy percent. In the construction industry for over 40% of global energy uses and produces more than one third greenhouse gas, and if the next 20 years continue, the dangerous consequences of climate changes will be swiped the world. Therefore, in this paper attempts to examine the library and documentary investigation and their intelligent control systems and (while running costs of a building, a large part of their income to the owners), provide guidelines until control systems by increasing the controllability plays a significant role in improving the environment and a higher level of comfort for occupants and saves energy. These mechanisms can be considered in new buildings perhaps in 20 years later, partly may be prevented to grow consumer-oriented and unrecoverable structures. The conclusion is that the Smart Energy System concept represents a scientific shift in paradigms away from single-sector thinking to a coherent energy systems understanding on how to benefit from the integration of all sectors and infrastructures.

Keywords : Central control system , Energy control strategy , Environment , Architecture in future, Energy system modelling, Electro fuels

1. INTRODUCTION

In recent years, several new definitions and terms have been put forward to develop new approaches and understandings on how to design future sustainable energy systems such as e.g. smart grid ,Net Zero Energy Buildings (NZEB and power to gas .These terms are typically defined and applied within the limits of sub-sectors and sub-infrastructures and therefore often represent a single-sector approach, which cannot be fully understood or analysed if not properly placed in the context of the overall energy system. This is a result of human activities in various fields of energy consumption such as industry, energy, construction, transportation, etc. Additionally, when forests converted to farming and land, carbon dioxide in vegetation will oxidize because of fires and decomposition of plants, and then cultivation and soil erosion will triple by 2100 resulting in an increased amount of CO₂ in the atmosphere

2. Intelligent Building

Intelligent buildings are new generation of Modern buildings with engineered design in which all utilities including electric, mechanical and safety are communicated and controlled by programmable controllers with computer network and private computer. These terms are typically defined and applied within the limits of sub-sectors and sub-infrastructures and therefore often represent a single-sector approach, which cannot be fully understood or analysed if not properly placed in the context of the overall energy system.

The term Smart Energy or Smart Energy Systems was defined and used in order to provide the scientific basis for a paradigm shift away from single-sector thinking into a coherent and integrated understanding of how to design and identify the most achievable and affordable strategies to implement coherent future sustainable energy systems. Despite more than a decade is going to operate such buildings outside the country, awhile before these systems were alien to Iranian Buildings and now is a new argument for engineers of facilities and Iran control. For example, the new office building near the Parliament building Tehran Baharestan Sq. is an intelligent building. Installation of intelligent systems in mentioned buildings allocated 3% of the total project cost.

how to design and identify the most achievable and affordable strategies to implement coherent future sustainable energy systems. This way of using the term Smart Energy Systems was first introduced in 2012. same views and materials) is between 16 to 45 percent lower. Many offices and banks operating in the United Arab Emirates have already taken advantage of this new paradigm. Until a few years ago there was not term (Intelligent Building) and chain connections and communications (interconnection) between the facilities and the various systems of a building was set was very limited. For example, fire notification system was associated to air conditioning (IIVAC) so that notification of a fire, the fan and damper act in a way that prevent from entering smoke to other spaces (SMOKE MIGRATION) and its publication in the building. In an intelligent building, in addition to reduce the cooling and heating load for heating and cooling spaces ,by providing full welfare of residents, will decrease operating costs and energy consumption considerably.

3. The main benefits of the smart building

3.1. Convenience

Intelligent building will bring more convenience for its residents by using automation and taking advantage of some repetitive tasks. On the other hand, to create the desired atmosphere in the intelligent building, only a mention is enough: Scenarios will undertake the task of exact adjustment.

3.2. safety

buildings announced warnings that could play an important role to prevent the failure or become more. Special Features of alarm in zoning (Zone) covered spaces, using precise sensors to detect the presence of static, and fingerprint sensor and also control and record of digital security pictures increases surveillance for homes dramatically.

4. Smart Energy Systems

As described in Section 3, the scientific state-of-the-art is that solutions for the integration of renewable energy are in focus within the limits of energy sub-sectors based on concepts such as, e.g., “smart grid”, “Zero energy buildings” and “Power-to-Heat”, while until now the industrial sector and the heating and cooling sectors have been largely overlooked.

One main point is that the analysis of individual technologies and sectors are contextual and, to do a proper analysis, one has to define the overall energy system in which the infrastructure should operate.

4.1 Definition

The smart energy system is built around three grid infrastructures:

Smart Electricity Grids.

Smart Thermal Grids

Smart Gas Grids

4.2 Immune system

Intelligent building has management capability of alarm systems, CCTV and Fingerprint sensor (Biometric System). The main advantages are mentioned high resolution, remote control capability, the possibility of sending SMS on mobile phones, zoning coverage area (Zone) and smoke detectors and flooded.

4.3 Doors, windows, blinds, shutters and shading

With a touch on control screen, blinds and shutters (mounted inside or outside) and canopy are easily controlled.

In the intelligent building, it is possible to use the archive music and videos to personal taste and temperament of each room separately. Music and Film Archive includes: DVD, CD, Radio, TV, DVB, Sound Box In the all rooms, buildings, etc., which are without transportation or even CD and DVD devices are used in all rooms of building.

¶/Δ Energy System Analysis Modelling Aspects

Simulation and design of smart energy systems calls for tools and models that extend across all parts of the energy system with focus on electricity, heating, cooling and transportation and thus across infrastructures connected by electric, thermal and gas grids. Secondly, due to the exploitation of fluctuating renewable energy sources, tools appropriate for simulation and design of smart energy systems must have a high temporal resolution while also being able to model across seasons to account for seasonal variations and properly reflect the utilisation of storage.

¶/ϕ iPhone Video

With the sound of iPhone, the image of references will reflect on mentioned monitor or all screens by your taste. Also, when residents are not present in the building, you will be notified the image of references and recorded referral time and after the return.

¶/∇A holistic approach to the storage aspects

Treating and simulating the energy system as an integrated entity rather than as a series of distinct and separate sectors, provides possibilities for flexibility that will assist in the integration of fluctuating renewable energy sources.

5. How to access and control the features in an intelligent building.

5.1 Central control panel

With a central control panel, you can control all devices in building and aware of the situation they are functioning. Equipped with touch screen technology (Touch Screen), which adds to the convenience of using it and it, is not needed to other input device.

What Is Smart Building:

Smart buildings provide the most cost effective approach to the design and the deployment of building technology systems. The traditional way to design and construct a building is to design, install, and operate each system separately (Fig. 1.1).

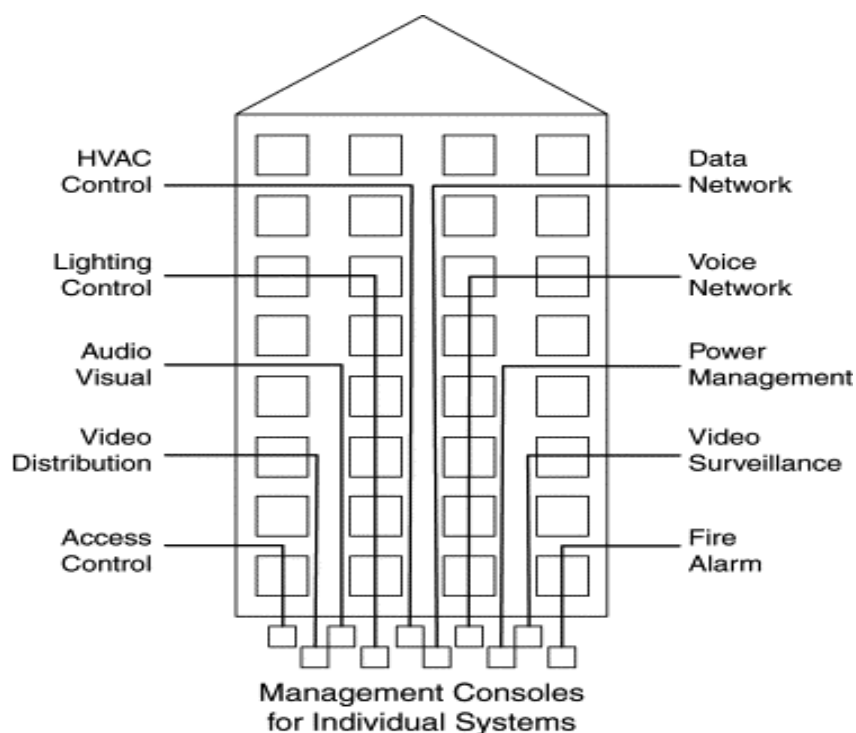


Figure 1. Multiple proprietary building system

The smart building takes a different approach to designing the systems. Essentially, one designer designs or coordinates the design of all the building technology systems into a unified and consistent construction document. The one consolidated design is then installed by a contractor, referred to as a Technology Contractor or as a Master [System Integrator](#).

This process reduces the inefficiencies in the design and construction process saving time and money. During the operation of the building, the building technology systems are integrated horizontally among all subsystems as well as vertically—that is subsystems to facility

management systems to business systems—allowing information and data about the building's operation to be used by multiple individuals occupying and managing the building (Fig. 1.2).

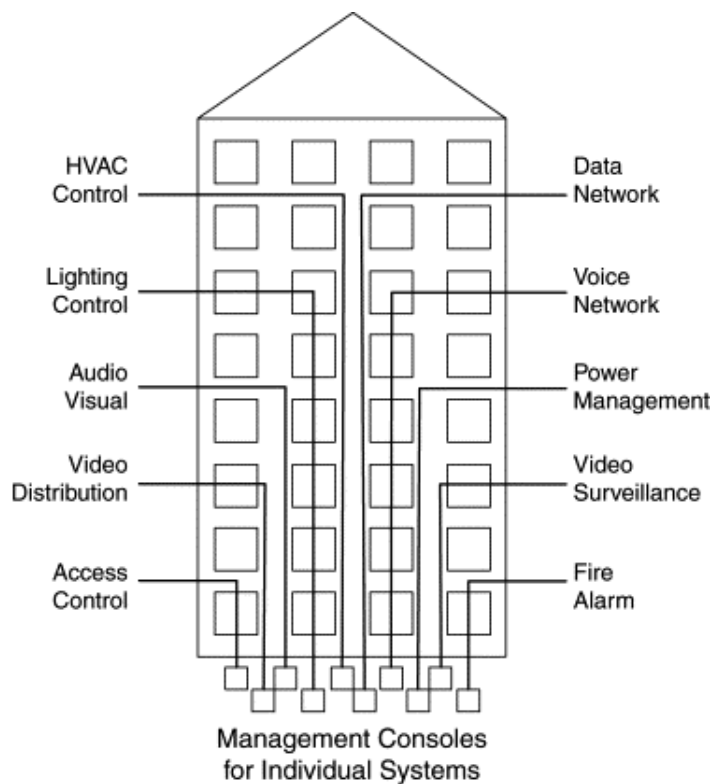


Figure 2. Integrated building systems.

Smart buildings are also a critical component regarding energy usage and sustainability of buildings and the smart electrical grid. The building automation systems, such as HVAC control, lighting control, power management, and metering play a major role in determining the operational energy efficiency of a building. For architects, engineers, and construction contractors, it means combining portions of the design and construction with the resulting savings and efficiencies in project management and project scheduling.

7. Examples of the use of BMS

This system could be used in building, offices, workshops, warehouses and anywhere humans exist. To better expression of BMS systems importance, we review some process in intelligent buildings in this section.

6.1 Crystal Island

Crystal Island is a tower project will be built 10 kilometers in downtown Moscow. This tower now is famous Crystal Island as the tallest and most dramatic world-building project, it is a clear and very nice crystal on the Siberian mythology designed and carved to resemble a diamond that will shine in winter white night of Moscow.

6.2 Fire and gas leak

Relaxation is the most important thing for each family, fires and gas leaks always threaten this peace. BMS systems can use fire detection and gas detection modules to feel fire and gas

leak sensed and perform supplementary measures which is scheduled by user. Power outages, gas valve shut, the sound of the alarm, make phone calls and such supplementary measures that can be taken by BMS.

6.3 Security and surveillance

Safety systems are implemented in various forms, use motion detector sensors (PIR) or video surveillance systems, including protection methods that are used in buildings.

7. ConclusionTypically

the scientific state-of-the-art is that solutions for the integration of renewable energy are searched for within the limits of individual energy sub-sectors based on concepts such as “smart grid”, “Zero energy buildings” and “Power-to-Heat”, while until now the industrial sector and the heating and cooling sectors have largely been overlooked. The idea of the Smart Energy Systems concept is to provide the scientific basis for a paradigm shift away from single-sector thinking to a coherent smart energy systems understanding of how to design, analyse and discuss the benefits of including all sectors and infrastructures.

Intelligent building increases all of these costs through automation and integration, communication, and management system. Another problem is computer error to human that is much less, because the old management methods, each building was managed by several people, that increasing human interference, the sum of errors willr increase, but in the New management system , these errors are significantly reduced. Undoubtedly the most important gift of intelligent building is the comfort and convenience of residents. Use of these luxurious and modern facilities will give beautiful and special classes to work or your life. Increasing the value of your property along with the reduction of energy costs, all of us assure the construction of intelligent systems, we believe it safe and well-friendliness and efficient that is a stunning leap forward in the quality of our lives and gifts us incredible comfort. Smart building technology provides extensive features which each person will use all or only part of it from their interests. Besides the comfort and safety of the technology, we can refer to conserve energy. Smart building technology philosophy is based on the centrality of the user and his or her needs; give a simple and convenient answer to the today and the future demands and is capable to coordinate with future technologies.

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