**Intelligent building problems**

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The new development in technology advancement, the changing in global warming and climate change. Many countries on the world are dependent on imported energy and all that effect on the balance and the abilities of controlling on the amount of energy. Building technology is the largest consumer of energy. Heating, cooling and lighting in residential and office buildings make up approximately 40 % of the energy consumed in the industrial nations. The main demand that it incorporates is the issue of an energy certificate detailing the energy consumption of the building as well as analysis of the potential savings.

There are various concepts and approaches are possible in the optimization of energy efficiency in buildings. The use of intelligent building control provides a proven its cost-benefit ratio.

There are many companies work in the area of intelligent building and they follow the European standard EN 15232 ( Energy performance of buildings – Impact of Building Automation, Controls and Building Management ) was compiled in conjunction with the Europe-wide implementation of the directive for energy efficiency in buildings (Energy Performance of Buildings Directive

EPBD) 2002/91/EG.

These companies present many solutions in energy efficiency in:

1. **Lighting problems:**

Treat the problems of energy consumption that cause by lighting system. By modernized the lighting system. The conventional ballasts of the fluorescent lamps are replaced by electronic ballasts. Accordingly, the electrical power consumption of the fluorescent lamps reduces about 30 %. There are many solutions can achieves such as the light controller that calculates a brightness setting for the dimming actuators between 28 % and 66 % of electrical energy used for the lighting can be saved with this control method – depending on the season, the weather and the location of the building.

1. **Heating, ventilation and cooling problems:**

The technical systems for controlling room temperature and air quality consume the largest share of energy in a building. Incorrect operation can lead to an expensive waste of energy. There are many ways to control of energy consumption by use different kinds of methods and detectors to control of the room heating or cooling energy can simultaneously switch the room thermostat of automatic heating / cooling for blind control and Room temperature control to absent mode as soon as the room is unoccupied for an extended period. Practical experience has shown that the reduction of the room temperature by 1 °C can reduce the consumption of heating energy by 6 %. If the room temperature is reduced by 3 °C during absence, 18 % of the heating energy can be saved in a non-occupied room. Also with cooling system the reduction can happen by using blind control systems that can share in more saving energy as shown in C map .

**The intelligent building prove:**

1. Intelligent building control share in energy saving comparison to conventional technology.
2. The level of energy saving in intelligent building depends to a high degree on the building parameters, usage and the level intelligent services.
3. The maximum energy saving potential is achieved using a combination of different automation functions.
4. The required investment in intelligent building control is generally low in comparison to structural modifications to buildings.