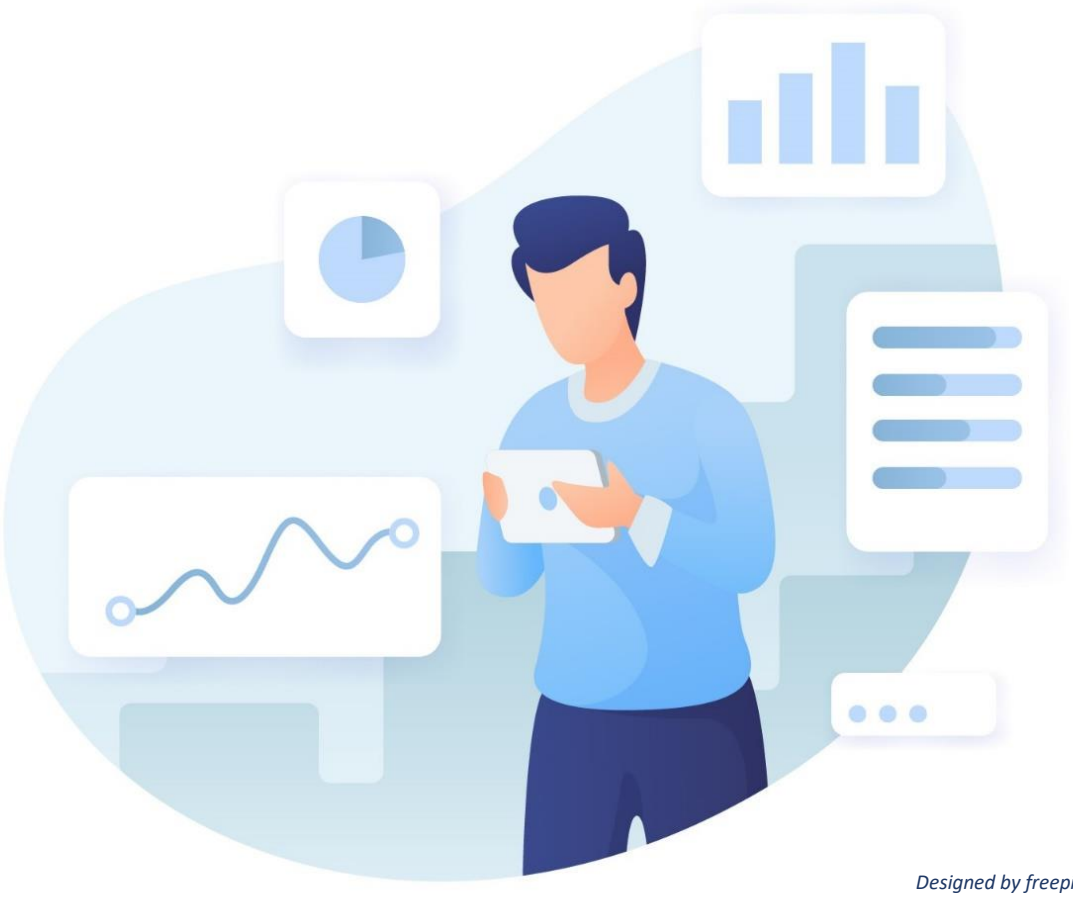
GOOD PRACTICES IN SME

Building Management System



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What is a BMS?

A BMS (ang. Building Management System) is a central system integrating the management of the building's automatic systems – lighting, ventilation, heating, air-conditioning, energy consumption, etc. The BMS monitors all appliances, sensors and detectors, gathers information on the operation of individual devices, informs about malfunctions, controls current parameters and their changes. Apart from ensuring the comfort of the building's users it allows for the optimization the operation of automatic systems with respect to energy consumption.

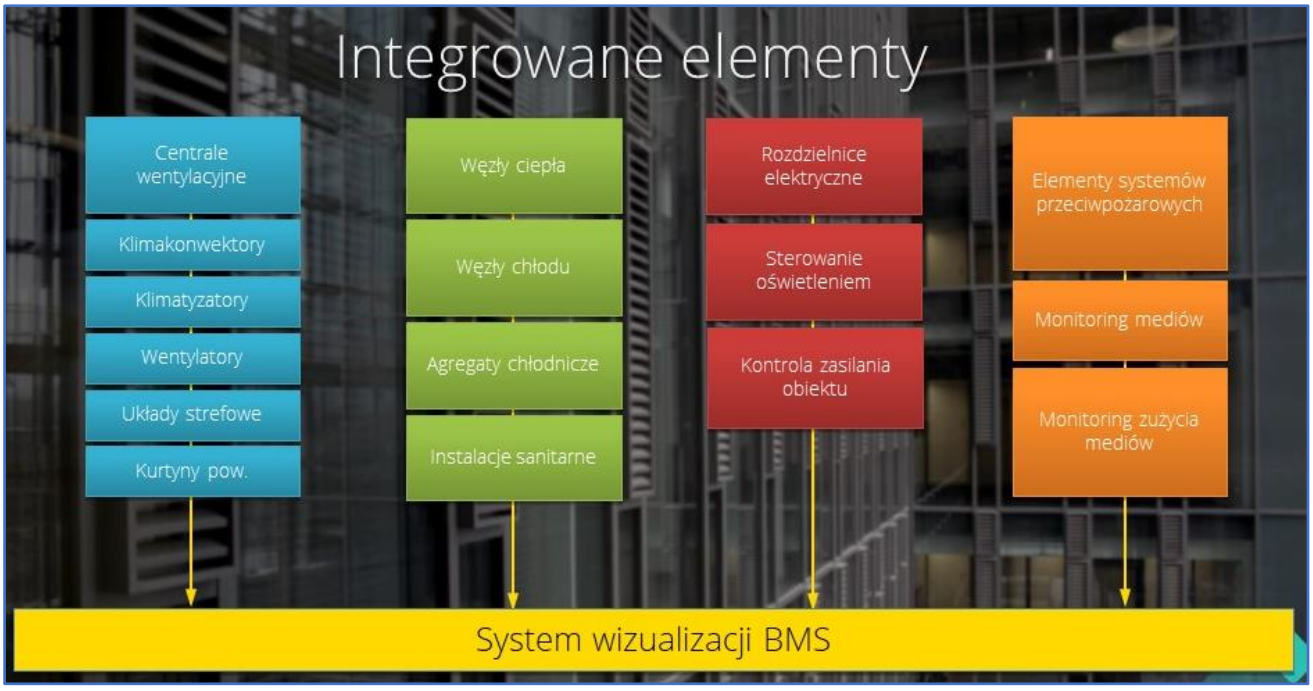
Where is using BMS worth it?

BMS have a significant potential in office buildings, shopping malls, hotels, hospitals and residential estates.

Which systems can be integrated with a BMS?

BMS controls systems using electric power – that is fuses, electric switchboards, power supply stations, measuring equipment, emergency power supplies and lateral and lateral and vertical transport (e.g. lifts).

Moreover BMS can manage air-conditioning, ventilation, heating, lighting, speaker systems, parking systems, AV (audio-visual) equipment, and weather systems.



Pic. 1 I-MATIC: Building Management System

*Top left to bottom right: Integrated elements, **Blue**: central ventilation, climate convectors, air-conditioning units, ventilators, zone systems, air curtains, **Green:** heating substations, cooling substations, refrigeration units, sanitary installations, **Red**: electric switchboards, lighting control, power supply control, **Orange:** fire protection system, media monitoring, media consumption monitoring, BMS visualization system.*

Controlling HVAC systems

Based on measurements (among others external temperature, internal room temperature) the BMS adjusts the parameters of the heating, air-conditioning and ventilation equipment. It eliminates situations in which heating and cooling equipment operate concurrently. When rooms are not in use (e.g. at night) air-conditioning or heating is, as appropriate, decreased or turned off, which reduces energy consumption. Additional control of the blinds allows the correct use of solar gains through transparent partitions (e.g. covering the windows in the summer sunlight to limit rooms heating up).

Controlling lighting

BMS uses data from light intensity measurements, timers and motion/presence sensors to adjust the lighting. This automatically ensures optimal lighting conditions (intensity and temperature) for the type of work being done or the room's use. Moreover, time in which lighting in unnecessarily turned on is minimized. The lighting control system can also be connected to the blinds control to appropriately coordinate artificial and natural light sources (e.g. increasing the intensity of artificial light during the evening).

Controlling safety systems

The BMS also controls the fire protection, smoke exhaust, alarm and monitoring systems or access control (e.g. card readers or biometrics). All this ensures adequate safety in case of malfunctions – e.g. in case of fire the sprinklers activate, air flow to the room is cut off, and all locks are opened to enable evacuation.

Source: KAPE