

GOOD PRACTICES IN SME

Modernizing a passenger lift



Designed by freepik

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When should a lift be modernized?

Signs that a lift should be modernized or replaced include:

- Frequent malfunctions
- Lift being unsuitable for disabled passengers
- Lift not servicing some floors of the building
- Need for increased comfort and safety in the lift – gentler and faster lift, automatic doors, modern cabin
- Desire to lower energy consumption

How can the energy consumption of a lift be decreased?

We distinguish two types of lifts: hydraulic and electric. Lifts with an electric motor consume much less energy than hydraulic lifts, therefore it is worth it to install an electric motor when modernizing lifts (at best a fixed speed AC motor with a frequency converter or a gearless motor with permanent magnets). To decrease the lifts energy consumption one can:

- Use modern energy efficient motors with smooth frequency regulation
- Use a gearless winch
- Replacing the lifts lighting with LEDs
- Implement a microprocessor controller



Pic. 1 KISA: lift motor

How can microprocessor control reduce a lifts energy consumption?

The effect of microprocessor control is the greatest when used with multiple lifts in a system. Due to the use of optimization algorithms dealing which lift calls, both the waiting time and the total distance travelled by the lifts can be decreased. A shorter travel distanced will translate directly into lower energy consumption by the motor. This means that using a microprocessor controller for personal lifts can increase comfort while providing energy savings.

Source: KAPE