

CASE STUDY 3 – HVAC MAINTENANCE

Organization context: The organization manages a commercial building containing multiple tenants and some outlets open to members of the public.

Describe the event: The building management team noticed a steady increase in energy consumption over the a number of months. Concerned about cost-effectiveness and environmental sustainability, the Building Management System was utilized to identify and resolve the issues.

Explain the consequence: Upon inspection of the Building Management System data, it became apparent that several Heating, Ventilation and Air Conditioning (HVAC) systems were operating beyond their optimal parameters. The consequence was a spike in energy usage leading to a corresponding spike in energy bills and carbon footprint.

What were the root causes: Some components of the HVAC system were not adequately maintained, there was a malfunction in a few environmental sensors leading to inefficient climate control, and the Building Management System was running on outdated settings for weather conditions and occupancy patterns.

What can be learned from this case study (good and bad):

- Addressing faults through real-time adjustments, proactive monitoring and data driven decision-making is a key aspect of fault management to maintain functionality of the building management system and achieve overall efficiency.
- Training staff in the optimal use of the Building Management System could ensure its full potential value is realized.
- Adhering to regular and preventative maintenance protocols can prevent inefficiencies caused by wear and tear.
- Incorporating redundant sensors and monitoring the health of sensors can reduce and eliminate malfunctions and false readings.