However, by designing a building to be adaptable and implementing smart principles, the reduction in energy consumption will be significant and achieved without compromising the comfort of the occupants.

Integrating enterprise into the building operating system would allow for an individual to specify a computer and preferred comfort variables in order to be allocated a computer that is in the currently occupied zones of the building. A similar method could be achieved with room bookings. Enterprise integration could also allow the building to adapt the mechanical services needed in a room based upon the occupancy levels and intended use.

The ability to tailor information to specific occupants would also be possible and useful for both the comfort and energy use within the building. Informing an occupant that their preferred location is likely to be cooler than usual due to the predicted weather conditions may encourage the occupant to adapt themselves and therefore negate the need for excess mechanical heating, whilst improving comfort. This information can be conveyed using smart devices, computers and social networking sites in order to reach the desired audience.

CONCLUSIONS

Although it needs to be acknowledged that The IC is a relatively unusual example of a building with highly variable rates of occupancy usage, it serves as an example as to how the utilisation of information before an event has occurred can increase energy efficiency whilst maintaining occupant comfort, rather than the building operator, the building systems or the building occupants having to react in order to rectify the energy waste or discomfort within a building.

The design of both interior and external aspects of a building, alongside the flexibility of the building enterprise systems, will impact upon the effectiveness of the concept; the more flexible the functions are in a particular zone, and the fewer rooms that are required to be open at all times, the higher the potential savings will be.

The occupants still control their own comfort but with the benefit of being informed, showing that choice does not need to be to the detriment of energy efficiency.

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