



# DIGITAL INFRASTRUCTURES OF FACILITY MANAGEMENT: HOW DATA SYSTEMS AND WORK ENVIRONMENTS AFFECT EACH OTHER

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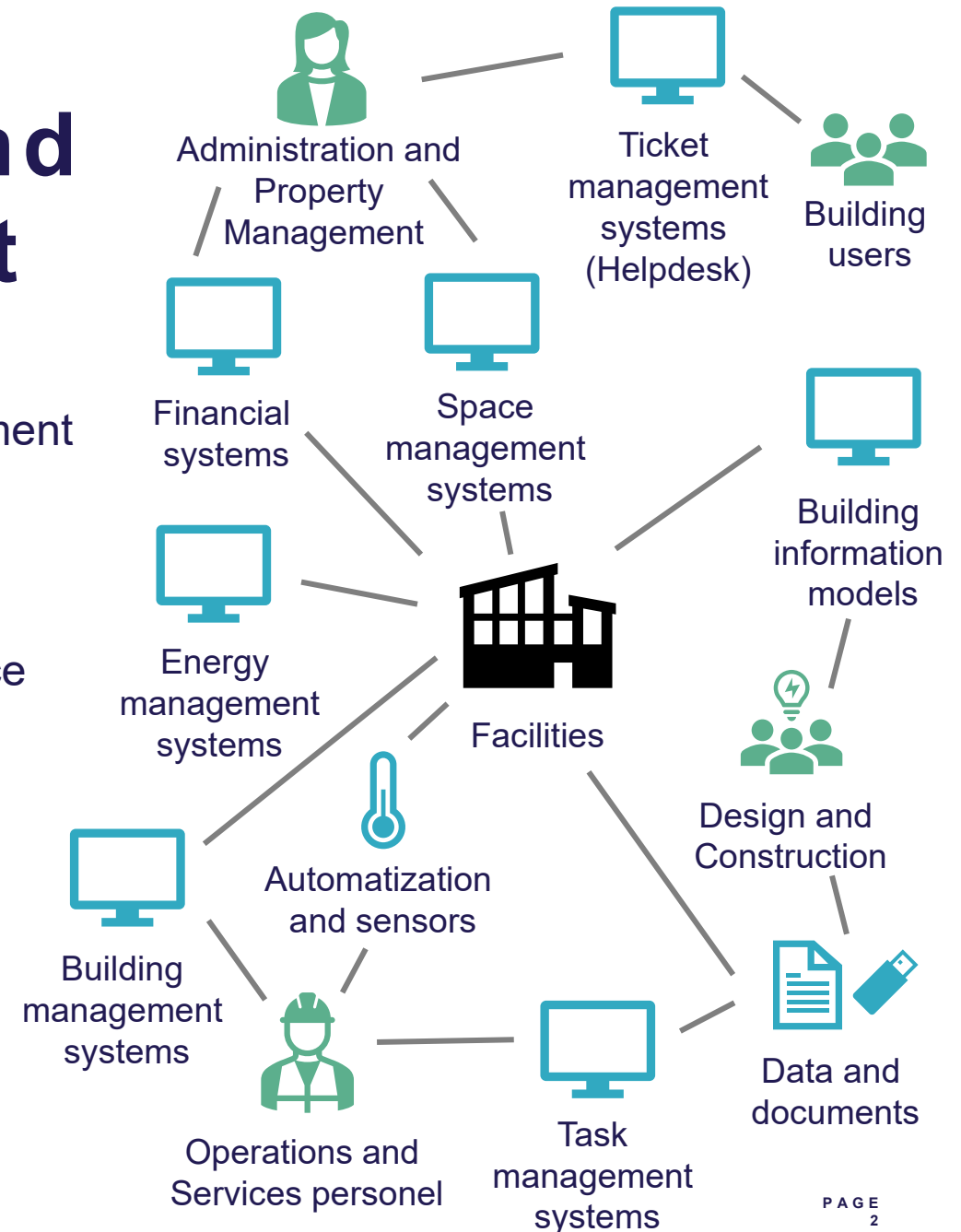


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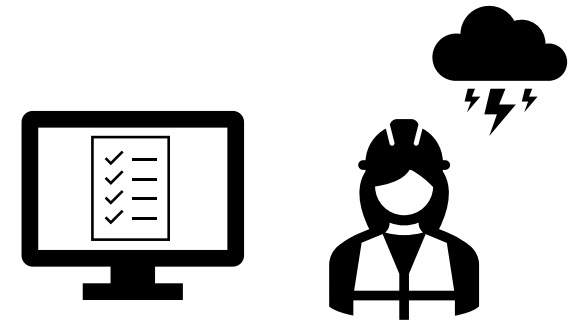
# Digital infrastructures and mental work environment

- ▶ An increasing number of digital systems in facility management creates infrastructures of practices and systems
- ▶ Digital systems formalise work processes and might produce meaningless situations for the workers
- ▶ Continuous frustrations and the feeling of helplessness can cause a poor mental work environment over time



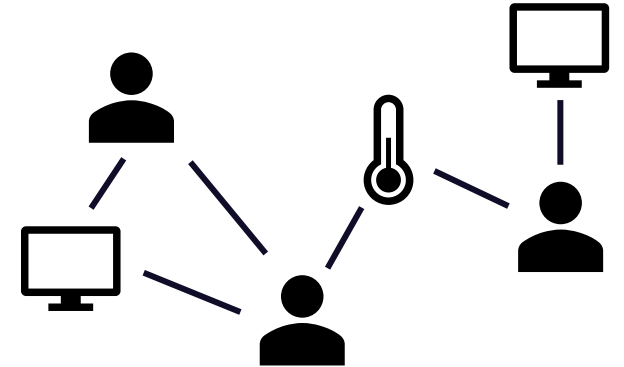
# The research objective

- ▶ The general technological development has an unproblematic approach to new digital solutions that do not consider the mental health issue stemming from their use
- ▶ Research shows that the systematisation and formalisation of work processes can result in frustrations, meaningless processes and stress
- ▶ RQ: How do digital infrastructures affect the work and the mental work environment of operations and maintenance professionals?



# Analytical concepts

- ▶ Digital infrastructures of practices and systems as heterogeneous and distributed actor-networks
- ▶ Poor work environment as deviations, distractions, or interruptions from people's core tasks
- ▶ Digital systems involve “plans” and “inscriptions” while people act and “navigate” in “situated actions”



# Methods and case

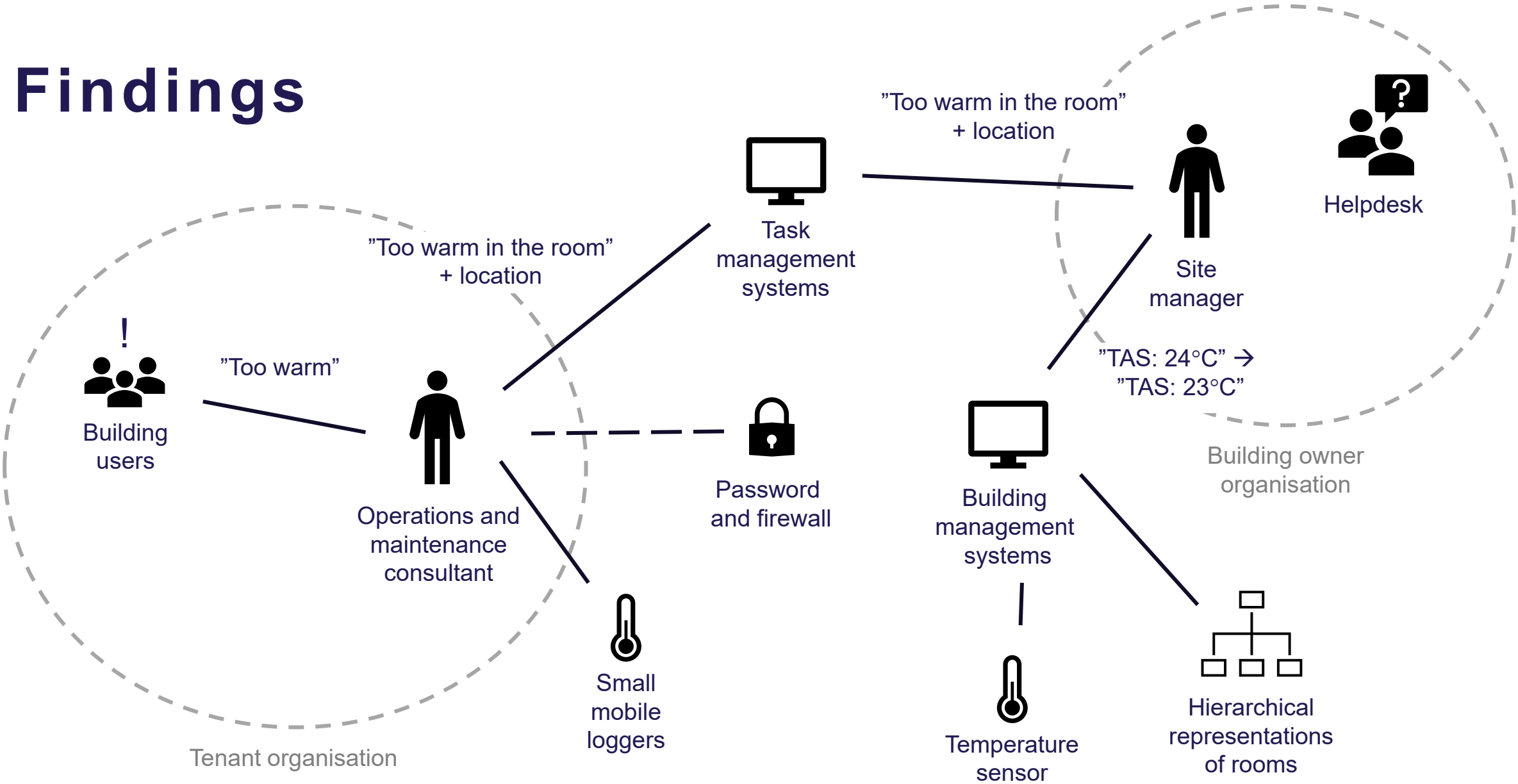
- ▶ Qualitative research approach
  - ▶ Interviews
  - ▶ Observations



The control of the indoor environment in a modern office building in Copenhagen, Denmark

Interviews	
1	Site manager
2	Operations and maintenance consultant
3	ICT manager
4	Contractor
5	Risk & Valuation manager
6	Software provider of the task management system
7	External BIM consultant
Observations	
1	Observing a coordination meeting between the ICT manager and the site manager
2	Shadowing the site manager for one day in three hours
3	Accessing the task management system 2-3 times a week for a month

# Findings



# Conclusion

- The building, sensors, meters, internet, software systems, and technical expertise of the operations personnel – all lock the operations personnel into a specific room of manoeuvre focusing on measurements and technical adjustments, which creates frustrations when such an approach cannot solve the building users' experience with a poor indoor environment
- Furthermore, technical breakdowns (such as a password not working) can create meaningless situations and frustrations for the operations personnel
- Are digital systems making work more “productive” – or more frustrating?



**Thank you for  
your attention!**

