

Dissertation Release**29.5.2020**

How digitalization can improve perceived indoor conditions

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| Title of the dissertation | Improving perceived indoor conditions using building information models and field data Koettujen sisäolosuhteiden parantaminen rakennuksen tietomallien ja kenttädatan avulla |
| Contents of the dissertation | Indoor air problems in buildings are often accompanied by uncertainty and concern experienced by occupants. At the same time, the amount of digital information in buildings is growing as building information models (BIMs), occupant feedback solutions, and accurate condition measurements become more common. Models for collecting, analysing and utilising digital information are just emerging in buildings. For example, BIMs are not yet widely used in property maintenance or occupant services. This dissertation presents an IT environment in which measured condition information and user feedback are combined with BIM and distributed to different parties to achieve business benefits. The dissertation shows that by combining the collected data with BIM can speed up the response to problems and improve the perceived indoor conditions. Open data allows proactive property maintaining, which reduces the fault frequency, prolongs the technical systems' service life and reduces the number of interruptions. It also enables the introduction of new types of business models. |
| Field of the dissertation | Indoor Environment Technology |
| Doctoral candidate | M.Sc. Esa Halmetoja <i>Born 1960</i> |
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| Opponent | Professor Brian Atkin, Lund University, Sweden |
| Supervisor | Professor Heidi Salonen, Aalto University School of Engineering, Department of Civil Engineering |
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