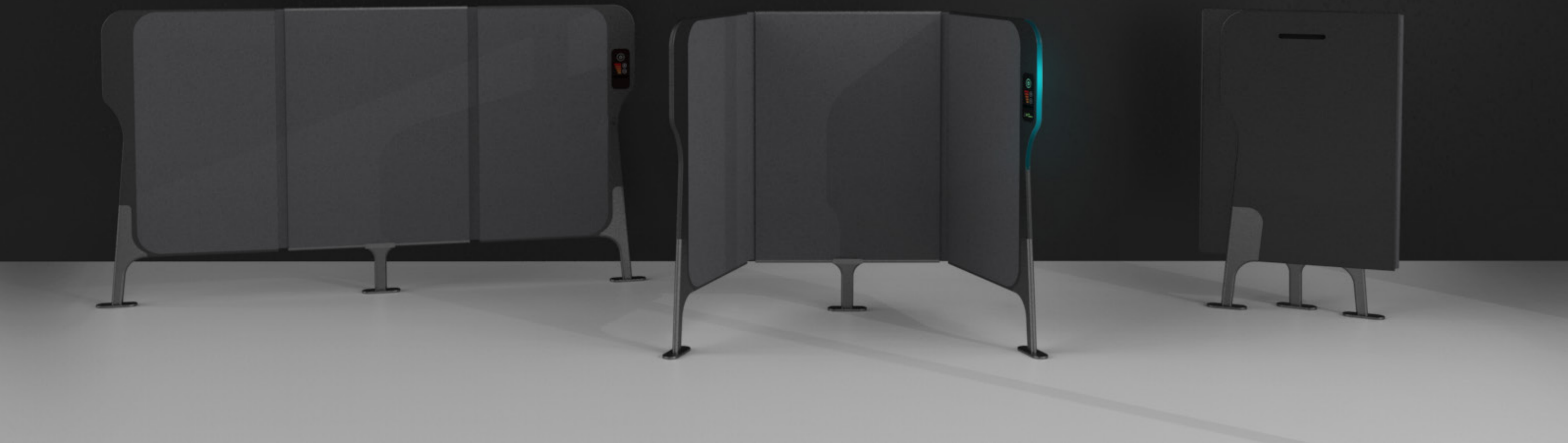


SmartHECO



WHAT IS SmartHECO?

SmartHECO is a standalone local heater for offices that could sense occupancy presence and provide heating accordingly to avoid unnecessary heating in winter. The product is controlled by a reachable, simple, and direct control unit consisted of capacitive buttons and an LCD screen that allows workers to personalise temperature around the working area to have higher control of the workplace while saving energy by lowering the ambient temperature.

WHY DO WE NEED SmartHECO?

Energy saving is becoming a topic that has been widely discussed. By 2050 all office buildings according to EU plans should be energy neutral. This implies a large potential for more efficient solutions, such as occupancy-aware local heating. Based on this idea, this collaboration between OfficeVitae, a startup based on Delft that focuses on the vitality of employees in the office explored the possibilities of implementing person detection technology into the local heating system, turn the general heating system into local heating, so as to save energy from the building in winter. Targeted on old buildings and offices.

HOW TO USE SmartHECO?

The control unit is installed on the side of the heater vertically, the product is placed under the desk, people are able to reach the unit easily. By fluently touching the capacitive buttons, the desired personal heating level changed. With active lighting feedbacks on the side and short text instructions on the LCD screen, the product is able to be used under proper usage without any extra manual. When the lighting is in a flashing reddish it means the heater is heating and the heater reaches the target temperature when the lighting is static, when the lighting turns to a fluctuate blue, it means it is in a stand by mode, still detecting the occupancy but stops heating automatically because no presence detected. When the lighting is in yellow and flashing fast, it means a caution information that the heater is not working please check and contact maintenance.



- Intuitive touching unit with lighting feedback
- Local heating based on presence detection
- Unobtrusive appearance in office



Yin Shen
Design of a stand-alone presence aware infrared
heating product for office
25 November 2020
MSc Integrated Product Design

Committee Prof.dr. D.V. Keyson MSc
Dr.ir. W.F. van der Vegte
Marcel Verbraak
Company OfficeVitae

TU Delft