

# CARBON REDUCTION CHALLENGE 2017: OCCUPANCY SENSOR INSTALLATION IN LABORATORY SPACES

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## Context to Reduction

The US R&D headquarters of Bostik USA is a facility containing numerous laboratories, large office spaces, and a small production plant. After discussing operations with the building manager and over the course of several weeks of being employed at the facility the idea to develop a framework for **occupancy sensors** in lab areas was realized.

This decision was informed by the lengthy work hours (6 AM - 6 PM) and the tendency for lights to remain on in the facility despite vacancy in rooms, especially labs, and the estimate that approximately **lighting accounts for approximately 20% of a commercial building's energy consumption.**

## Obstacles to Reduction

Previous attempt to install occupancy sensors in labs in the past was unsuccessful due to the specific sensor's low response rate to human presence, leading them to be rejected for use in labs out of safety concerns

- ↳ • **reliability & safety** necessary priorities for future projects involving sensor installation in labs for acceptance from lab management and staff

## Execution

Numerous laboratories across the US with a reputation for environmentally-conscious labs were surveyed for information of models of sensors currently in use and the specific environments

they were successfully used in. Testing of these sensors to ensure reliability prior to full installation is currently ongoing.

**20.4 TONS** Annual reduction of equivalent CO<sub>2</sub>

**2.2 TONS** Annual reduction of CH<sub>4</sub>

**25%** Reduction in facility laboratory energy consumption

**455%** 5-year ROI

\*Projected savings and reductions if sensors installed in laboratories