

IST-059

Integration of Pervasive Sensor Networks for Embedded Building Commissioning

H. Scott Matthews

Assistant Professor, Department of Civil and Environmental Engineering, Carnegie Mellon University, Pittsburgh, PA

Industry Participant

Bradley Hochberg

Carnegie Mellon Facilities Management Services, Pittsburgh, PA

Abstract

Building commissioning is undertaken after the design and construction processes have been completed to verify that buildings are performing as designed. Typically this process ends when building performance characteristics set forth in project documents are certified. Recently, sensors have been installed en masse to archive pertinent values that can be used to validate building system designs. Further these data archives can be used to benchmark performance of classes of buildings and allow best practices to be identified.

The goal of this project will be to test the effectiveness of CRITTER™ sensors in a relatively long-lived application that would extend beyond the traditional building commissioning timeframe. The performance measures to be obtained include temperature and ambient light. One building of interest is the new Collaborative Learning Center on the CMU campus. This project will integrate with a recently funded NIST project on building commissioning to create a baseline of lessons learned from 5 traditionally commissioned buildings. Thus we will be able to compare the successes of those projects with those of our CRITTER™-enabled embedded commissioning projects.