

## Introduction

Over the last 25 years, the building industry has made revolutionary changes: chiller systems have decreased their power requirements by a factor of two, from more than one kW/ton to less than 0.5 kW/ton; the use of variable air volume systems has become common practice; and the use of building automation systems has become the norm, with digital controls increasingly replacing pneumatics. Advances in HVAC technology have greatly improved building comfort and significantly decreased building energy consumption. These advances have also increased the importance of proper operational practices in achieving the efficiency potential of the HVAC systems.

Building commissioning has emerged as the preferred method of ensuring that building systems are installed and operated to provide the performance envisioned by the owner. While most commissioning processes focus on bringing building operation to the original design intent, Continuous Commissioning® (CC®) focuses on optimizing heating, ventilation, and air conditioning (HVAC) system operation and control for the existing building conditions. This is an important distinction.

Based on Continuous Commissioning® results from more than 300 buildings, the average measured utility savings are about 20%, with simple paybacks typically occurring in less than two years. Continuous Commissioning® maintains long-term savings using ongoing monitoring of energy consumption with follow-up commissioning, as needed. It also improves system reliability and building comfort by optimizing system operation and control schedules based on actual building conditions, upgrades the operating staff's skills by allowing direct participation in the CC® process, and reduces O&M costs.