



PROJECT AT A GLANCE

Location

Iowa City, Iowa

Facility

Large-scale campus encompassing academic laboratories, classrooms, student dormitories, athletic centers, and office spaces.

Monitored Systems

All major HVAC equipment including air handlers, heating and chilled water systems, pumps, terminal units, and four different building automation systems

RESULTS IN 6 MONTHS

Over \$600,000

in realized annual savings

- Maximized existing automation systems and accessed un-used data to unlock hidden savings.
- Integrated FDD into pre-existing work order system, as not to duplicate efforts, but enhance workflow.
- Motivated cross-team collaboration to prioritize and proactively resolve systemic performance issues

FDD-driven Predictive Maintenance at University of Iowa saves \$600k in 6 months

Clockworks™ analytics implemented at UI demonstrates impact of predictive maintenance, generating significant savings

Introduction

The University of Iowa (UI) led an exhaustive study of Fault Detection and Diagnostics technologies (FDD) beginning in 2014. In March of 2017, the UI embarked on a large-scale implementation of KGS' analytics platform through an OEM partner. Thoughtful study and implementation generated insight, best practices, and remarkable results, which the UI shared publicly on-stage at APPA's National Conference and the APPA Institute in 2017.

Organizational Benefits

Unparalleled Visibility and Savings: The UI regularly monitors trended data and diagnostics across 50,000 automation system points, identifying opportunities or faults with suggested actions. In 6 months, across 7,000 monitored equipment, Clockworks identified issues which resulted in \$600,000 in realized savings. Additionally, the four buildings with the most focused efforts achieved 13%-24% savings since implementing the FDD response process.

Predictive Maintenance: UI demonstrated that 24% of quarterly HVAC work orders in connected buildings were generated by Clockworks —catching hidden issues before they led to 'fire drills.' Overall the team addressed 117 energy issues, 171 comfort issues and 304 maintenance issues in the first 6 months.

Collaborative Facilities Management using FDD: Clockworks is used across Controls, Zone Maintenance and Energy Management groups, allowing teams to prioritize and dispatch action quickly. In addition, Clockworks is being used for data-driven post-occupancy commissioning, reducing future maintenance overhead, and improving the performance of capital projects.

12,000+

EQUIPMENT MONITORED

26 million

DATA POINTS ANALYZED PER DAY

49

BUILDINGS

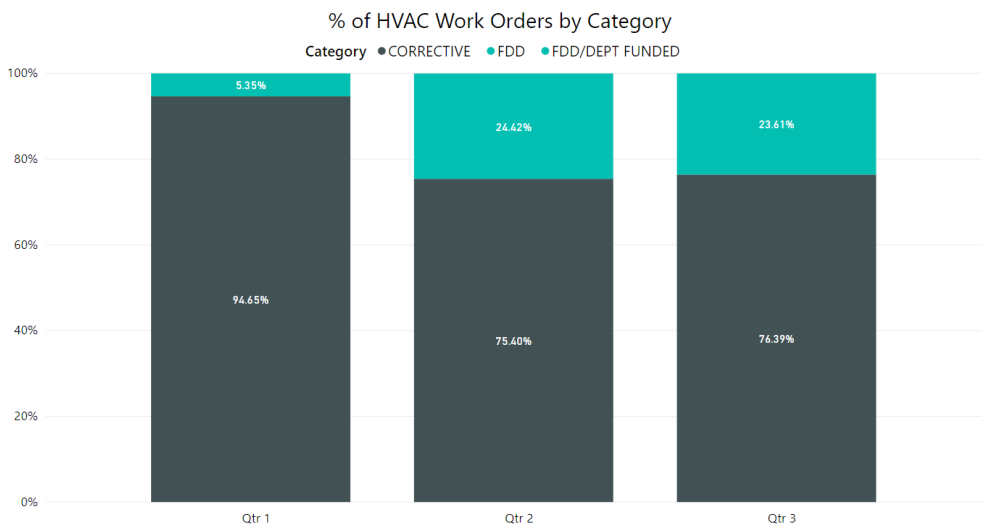
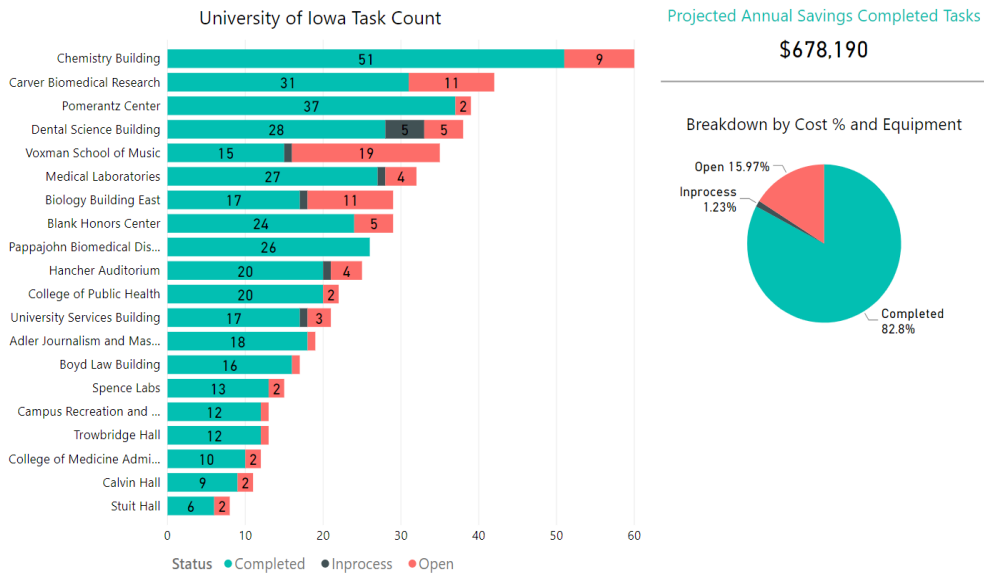
6,741,000

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Results

The University of Iowa identified \$600,000 in realized energy savings, in six months. Below are achievements by UI summarizing savings captured and the shift in work order volume to more predictive maintenance:



About KGS Buildings

KGS Buildings provides state-of-the-art building performance management software for facility managers, engineers, and service providers. KGS Buildings' flagship software, Clockworks™, provides automated diagnostics that reveal prioritized and actionable insights to improve facility performance and reduce costs, allowing teams to focus their time and resources on achieving the most impact. Using rich data and analytics, we help top-notch facilities teams stay on top by providing instant visibility into the highest-priority issues impacting their facilities every day.