Cloud Managed Building systems

riptide

Over 7,500 Cloud Managed Building systems installed to date

Situation

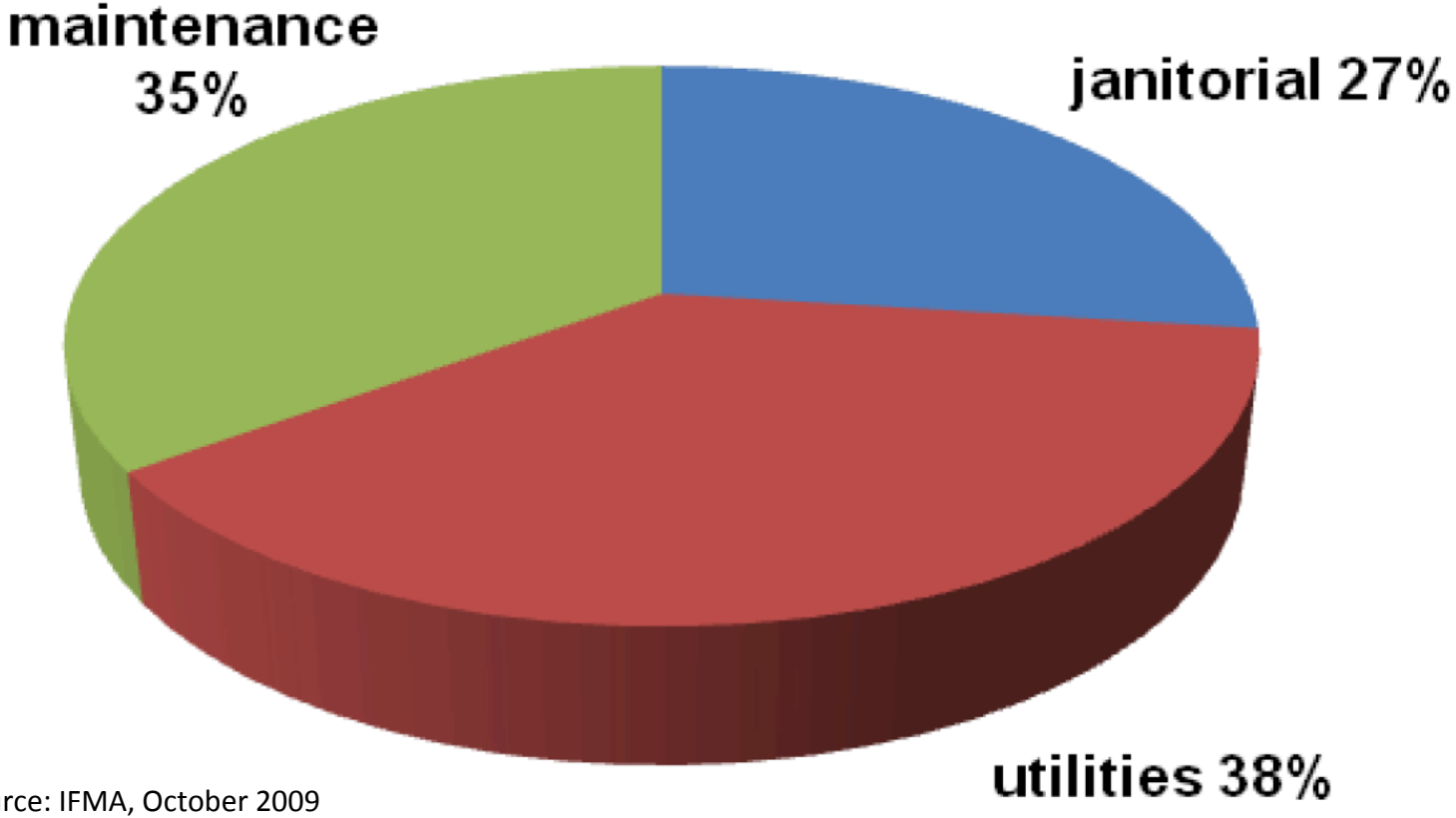
- as many as 90% of all existing buildings have inapplicable or ineffective controls, many of which require complete refurbishment (European Commission)

- Maintenance costs consume nearly as much of a typical facility's operating budget as utility costs and amount to more than one-third of the total operating expenses.

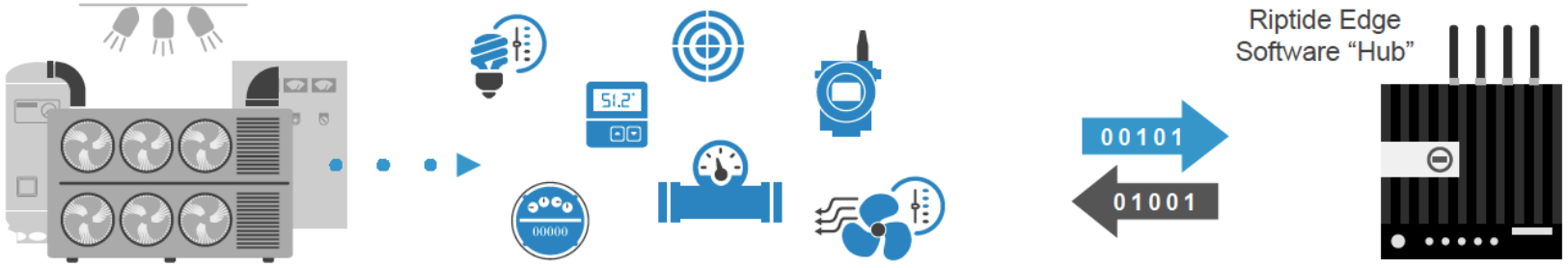
- Most Building owners still rely on reactive/preventative maintenance

- IoT-driven maintenance can improve overall equipment effectiveness by up to 89 percent, with a reduction in maintenance costs of up to 30% year-over-year and an increased return on assets (ROA) of up to 24 % (2016 report from the Aberdeen Group)

Typical facility operating costs



Source: IFMA, October 2009



Connect Legacy and Modern Equipment to the Cloud	
Learning algorithms analyzing data over time to improve operations	Scalability from small sites to thousand-site deployments
Smart notifications with diagnostics and troubleshooting tips	Secure access to field teams
Collects data from multiple systems within a building or portfolio of buildings	Seamless over-the-web updates and new features delivered

Riptide Solution Overview

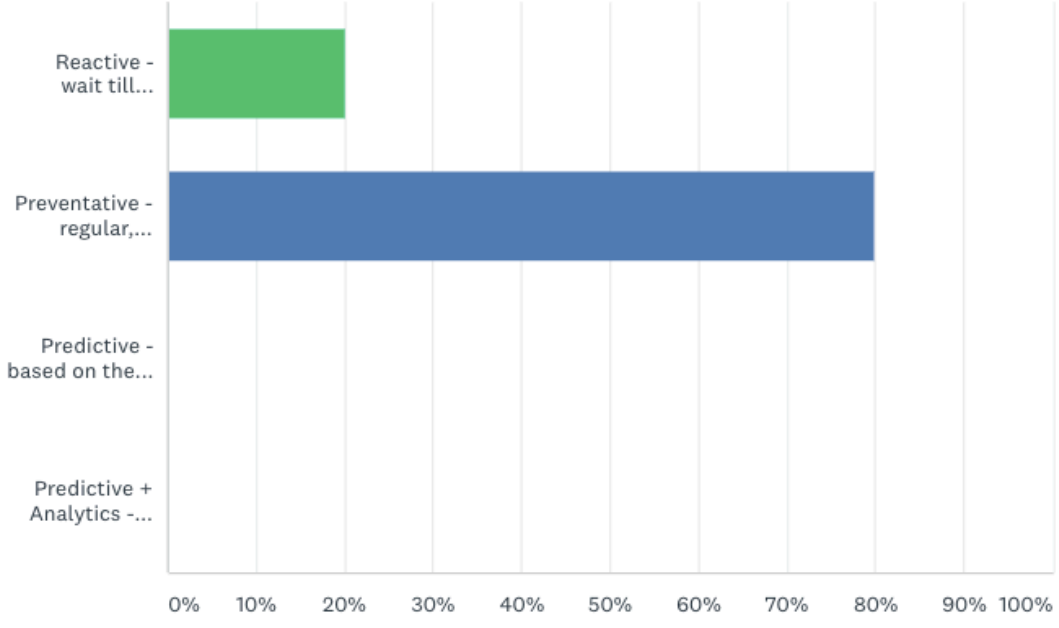
Riptide's solution helps deliver on the following business objectives:

- Reduce energy cost.
- Reduce operation & maintenance costs.
- Improve comfort & productivity.
- Implement alarms and analytics with a system for issue identification, prioritization, management and notification.
- Provide instantaneous and historic energy trend data to the Sustainability/Green Teams.
- Provide data that is consistent across multi-vendor systems to allow flexibility in buying
- Decisions.
- **Predictive Maintenance solutions**
  - Improve reliability and extend the life of building assets.
  - Give tools to repair teams to remotely troubleshoot issues and reduce truck rolls.
  - Provide web & mobile application for maintenance team to improve first-time fix rates.
  - Provide portfolio level building analytics as a tool for issue discovery and outlier
  - management, without adding staff.
  - Integrate with external systems and organizations (work order management, customer analytics) via an open and documented interface to automate processes.

Predictive maintenance, A Maintenance transformation Journey

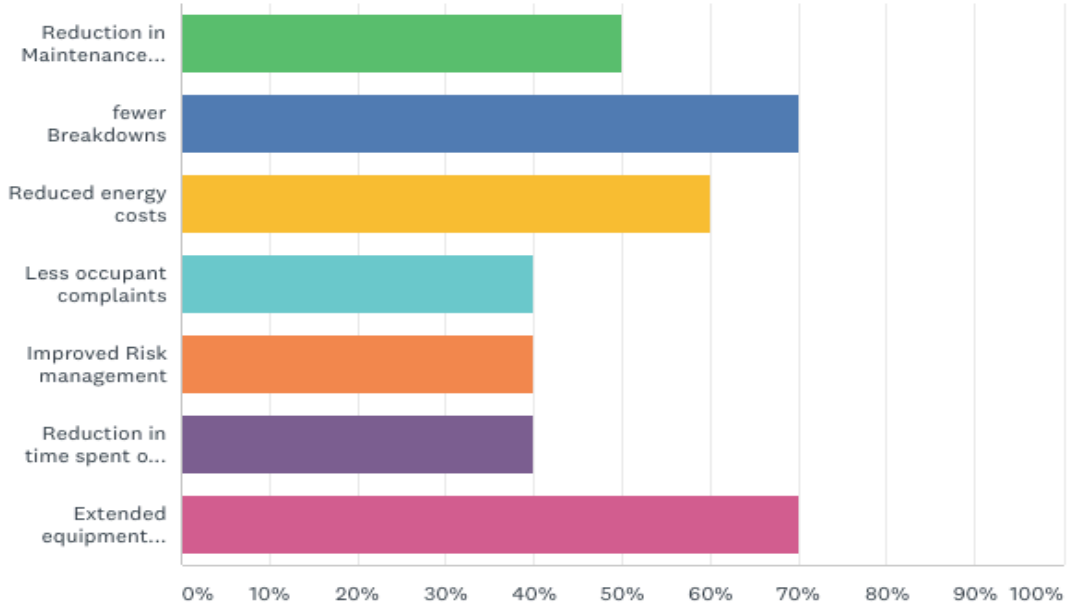
Reactive to Predictive

What maintenance strategy do you rely on?



ANSWER CHOICES	RESPONSES
Reactive - wait till equipment fails	20.00%
Preventative - regular, prescheduled maintenance checks and repairs	80.00%
Predictive - based on the actual condition of the equipment	0.00%
Predictive + Analytics - using advanced analytics to leverage the data generated by the BMS	0.00%
TOTAL	

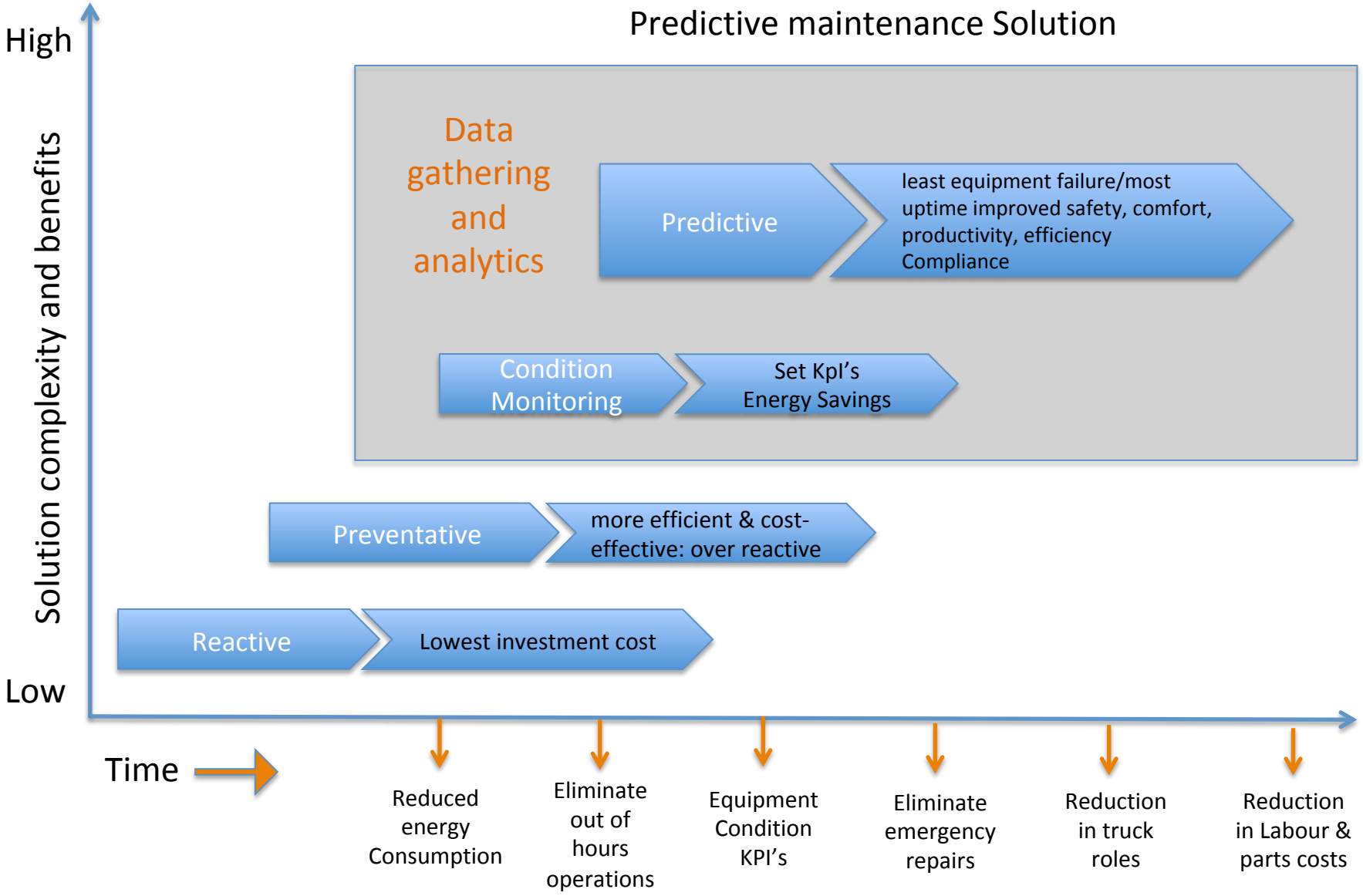
What would you be interested in for you HVAC maintenance?



ANSWER CHOICES	RESPONSES
Reduction in Maintenance costs	50.00%
fewer Breakdowns	70.00%
Reduced energy costs	60.00%
Less occupant complaints	40.00%
Improved Risk management	40.00%
Reduction in time spent on maintenance issues	40.00%
Extended equipment lifetime	70.00%

Predictive maintenance (PdM) is the analysis of equipment sensor data to predict equipment failures and increase uptime while minimizing costs.

The most efficient approach is to include advanced analytics to leverage the big data generated by today's modern building management systems (BMS). This data provides accurate, timely, and actionable information that can be leveraged to refine service programs even further and achieve optimal building performance and cost-effectiveness.


Predictive maintenance Solution
High
Solution complexity and benefits
Low
Data gathering and analytics
Predictive
least equipment failure/most uptime improved safety, comfort, productivity, efficiency Compliance
Condition Monitoring
Set KpI's Energy Savings
Preventative
more efficient & cost-effective: over reactive
Reactive
Lowest investment cost
Time
Reduced energy Consumption
Eliminate out of hours operations
Equipment Condition KPI's
Eliminate emergency repairs
Reduction in truck roles
Reduction in Labour & parts costs

PdM, How to get there

1 I Identify and prioritise data sources − BMS, sensors, meters, enterprise asset management systems, and supervisory control and data acquisition (SCADA) systems

2 I Connect your building - collect from all relevant data sources to learn and continually make better, more informed business decisions.

3 I Determine where to run your Analytics - A distributed cloud & edge approach to analytics enables you to detect and respond to local events at the edge as they happen

4 I Combine and Analyse data to gain precise insights - quickly define the parameters of normal operation for a machine.

5 I Operationalise and take Action on insights - Send out Automated alerts to concerned parties such as location, a description of the issue, and recommended corrective action to avoid a catastrophic event

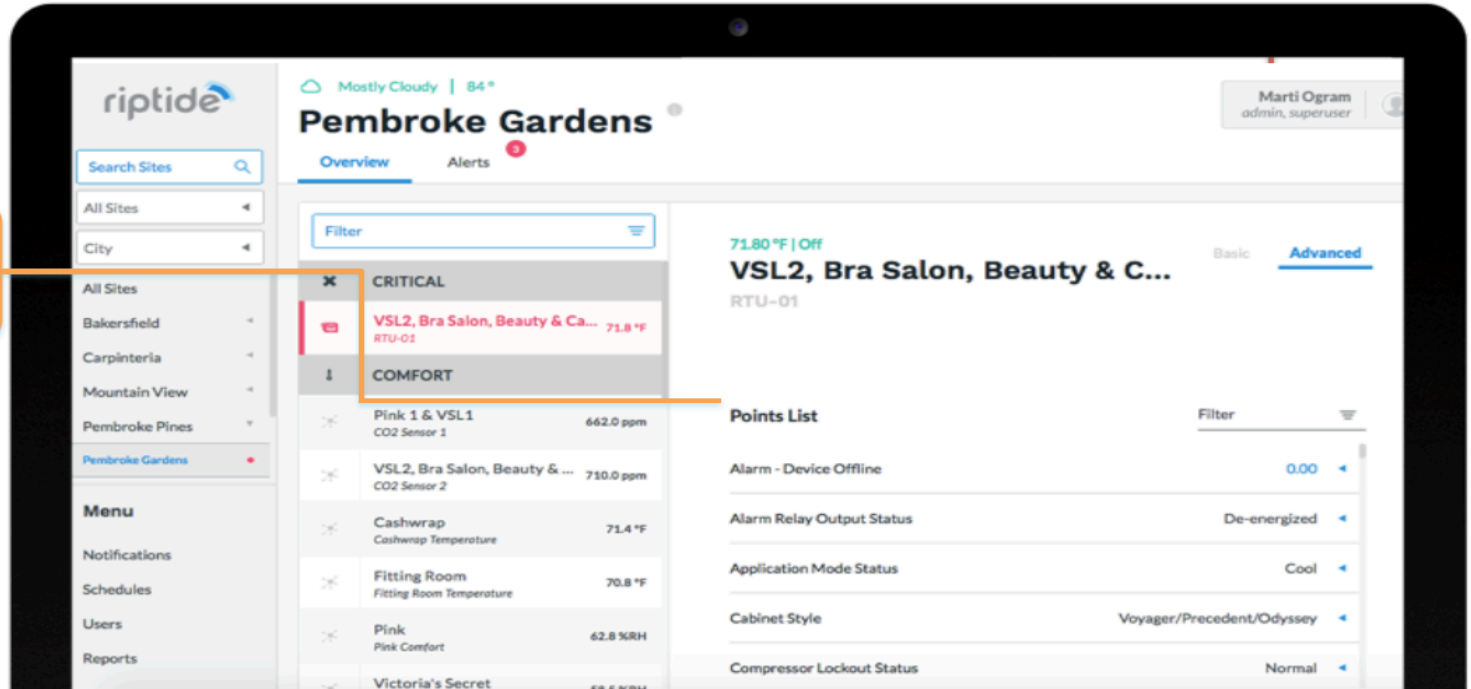
Dashboard

Real-time data anywhere, anytime

Equipment Details

Access equipment data without a site visit so you can verify hot/cold issues, validate repairs or troubleshoot issues.

Data points available for each device



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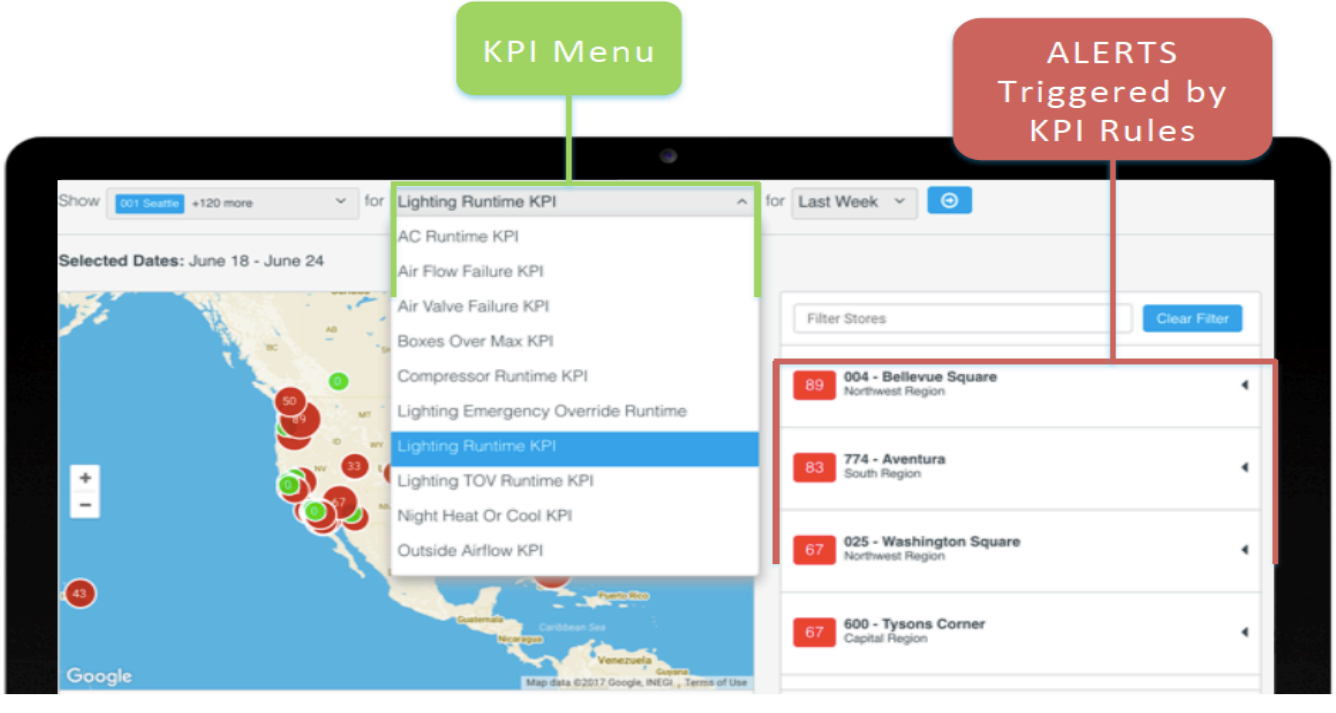
Gain New Insights on your Building Assets

ANALYTICS

Utilize over 30 KPI's (and growing) to simplify management across a portfolio and eliminate waste. Machine learning applied on your data to root hidden issues quickly.



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Keep on top of issues

ALERTS

Leveraging a library of pre-built triggers, KPI's and diagnostics, alerts are generated when an issue warrants attention. Quickly check detailed status to understand the problem.

Alerts – sort by type

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Get Service help without leaving the App

SERVICE REQUESTS

The smart service call: Address issues faster by requesting service directly from the app. Linked to your trusted service provider.

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Case studies

Single Application to Manage Their Entire Portfolio.

NORDSTROM

Solution: Proactive Analytics

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Nordstrom implemented Riptide across their portfolio to bring all their data and equipment into a single application.

- Daily comfort report across all stores.
- Identifies when equipment is running after hours to eliminate energy waste.
- Ability to verify repairs before paying vendors.

Results

30% Decrease in Comfort Complaints

22% Reduction in Emergency Repairs

17% Reduction in Energy Usage

Cloud-based Building Management

Solution: Riptide Kit for Branches;

Enterprise Application for Analytics, Control and Reporting

Fifth Third is completing a phased roll-out to add Riptide controls kit for branches and connecting all properties within a single enterprise application.

- Branches now run HVAC and lighting on schedules.
- Set points controlled to bank standard of 69-72 degrees.
- Building automation systems in all buildings now have alerts & notifications optimized to focus on critical performance standards, while reducing nuisance alarms.

Results

22% Reduction in Energy Use in Branches

15% Reduction in Emergency Repairs

Reporting to Show Compliance to Bank Standards

Single Application to Manage Their Entire Portfolio.

Solution: Remote Monitoring & Diagnostics

HTS installed Riptide at their University customer, connected it to their HVAC assets, and now provides proactive monitoring and remote support.

- Tie to the University's VRF system for 24/7 monitoring.
- Stream data and apply diagnostics to identify issues.
- Remote triage and troubleshooting without going on site.

Results

100% Increase in First Time Fix Rates

20% Reduction in Truck Rolls

Improved Customer Satisfaction

Thank You

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