METASYS®
MASTER YOUR ENVIRONMENT.

BAS DELIVERS A NEW KIND OF SMART

METASYS® BUILDING AUTOMATION SYSTEM OFFERS THE INTELLIGENCE, EASE OF USE, AND MOBILITY FACILITY OPERATORS NEED TO IMPROVE PRODUCTIVITY AND DRIVE ENERGY AND OPERATIONAL SAVINGS

EXECUTIVE SUMMARY:

Building Automation Systems should help facility operators to solve problems faster. *Metasys* maximizes the return on investment in building automation by supporting facility operators in the way they work today, increasing productivity and efficiency:

- *Metasys'* interface provides facility operators with key information on building performance at a glance and offers additional data with just a few clicks or swipes.

- *Metasys* features an intuitive design, with navigation based in spaces and equipment-serving relationships, helping facility operators identify and correct problems more quickly and making it easier to troubleshoot equipment.

- *Metasys* is optimized for mobility. Facility operators don't spend their days at a desk. The *Metasys* single experience makes a full range of system capabilities available on any device — mobile phone, laptop, tablet — so facility operators can manage their buildings no matter where they are and no matter what device they are using.

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Facility operators' jobs are in the midst of a transformation. They must respond to demands for a comfortable, secure, and productive environment despite increasingly tighter budgets and smaller staffs. The work of the facility staff needs to be streamlined for maximum productivity, and their tools must improve operational and energy efficiency to reduce costs.

As the job has changed, so has *Metasys*. Based on extensive research into how operators do their jobs and what they need to be effective, *Metasys* has raised the bar for building automation systems. It offers a new kind of smart for facility operators.

Essential Data Pinpoints Problems

The advanced capabilities of *Metasys* grew out of extensive observational research. The team behind *Metasys* spent hundreds of hours in the field with facility operators, learning in detail the range of responsibilities facility staffs handle, the challenges they face, and the ways in which they actually spend their days.

One point that research made clear is that the magnitude of information that facility operators are confronted with – from set points to equipment schedules, alarms to energy-use data – can be staggering. In some facilities, the data points can number in the tens of thousands. Facility operators want to know where the problems exist in their buildings. But the challenge of finding that information, quickly, can be overwhelming.

Metasys takes that torrent of data and turns it into actionable information that enables facility operators to reduce costs and be more productive.

One way *Metasys* achieves that goal is by allowing facility operators to easily see where problems are occurring. Operators using *Metasys* have immediate access to a campus-wide summary of any item that is in alarm, overridden, or offline. They can use this interactive summary as their daily "punch list" to manage buildings more effectively. From this Potential Problem Areas list, facility operators can quickly and easily dig deeper to get the additional information about equipment status, history, and trends they need to resolve the issue.

> Compared to hardware-focused interfaces, *Metasys*' interface requires **86% FEWER CLICKS** to find critical information.
> *Source: Johnson Controls internal study*

SINGLE EXPERIENCE IS SIMPLE TO LEARN AND USE

For the BAS to benefit all users, it was important to create a device-agnostic interface that is optimized for both mobile and desktop systems. It's a single experience, no matter what device facility operators are using to access the system, whether it's a company-issued laptop or a personal smartphone – with no software installation needed. Because the *Metasys* experience is consistent across all devices, changes are made the same way on all display platforms. Training time is reduced, since facility operators don't have to learn a different way to use the system for each separate device. The result is improved productivity. And regardless of the screen size, charts and graphs are clear and readable; facility operators won't need to squint to see them.

ITEM	VALUE ▾	EQUIPMENT
▸ SHUTDOWN **LOCAL SHUTDOWN SWITCH**	ALARM Shutdown	VAV-104
▸ HTG-O **HEATING OUTPUT**	OFFLINE ??? 0 %	VAV-206
▸ DA-T **DISCHARGE AIR TEMPERATURE**	OFFLINE ??? 100.8 deg F	VAV-206
▸ DPR-O **SUPPLY AIR DAMPER OUTPUT**	OFFLINE ??? 29 %	VAV-206
▸ HTGUNOCC-SP **UNOCC HEATING SETPOINT**	OFFLINE ??? 61.0 deg F	VAV-206
▸ EFFHTG-SP **EFFECTIVE HEATING SETPOINT**	OFFLINE ??? 69.0 deg F	VAV-206

FILTER ▾ SELECT ALL
- ☐ Above Setpoint
- ☑ Alarm
- ☐ Below Setpoint
- ☑ Offline
- ☐ Out of Service
- ☐ Overridden
- ☐ Trouble/Warning
- ☐ Value Inaccessible

POTENTIAL PROBLEM AREAS
Data Generated: 5m ago
JCI Campus
Medical Center

Metasys gives facility operators quick access to a summary of where the problems are in a building or campus. The Potential Problem Areas list shows all items that are in alarm, overridden, or offline.

With capabilities like these, *Metasys* does more than make the facility operator's job easier. *Metasys* helps to save money by reducing the time it takes to solve problems that waste energy. It's a smarter, faster way of working.
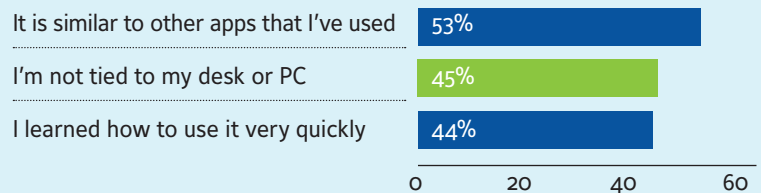
Metasys Helps Solve Problems Efficiently

Facility operators are under enormous time pressure, with smaller staffs handling more square feet. Whether a facility operator is responsible for a single facility, a campus, or an enterprise spread across multiple locations, a speedy response is of the essence when a problem occurs. *Metasys* offers the ability to quickly zero in on a specific space and view the devices and equipment serving that space to identify potential issues – a capability that is essential to restoring a building to peak performance as soon as possible.

Let's look at what happens when a facility operator gets a call saying a room is too warm. With *Metasys*, no matter where he is or what device he is on, in one click the operator can call up that room and access both the set point for the space and the actual temperature. If the temperature is too high, the operator can look at the equipment serving that space and spot any abnormalities, allowing him to locate the source of the problem. For example, if the VAV box is blowing out lukewarm air, the operator's mobile device may show that the air handler isn't delivering 55-degree Fahrenheit air. Having that piece of information literally at an operator's fingertips can save hours of time compared to old ways of doing things. Gone are the days of needing to carry "cheat sheets" to figure out which equipment serves each space; the *Metasys* interface simply works the way the operator works.

INTUITIVE DESIGN BOOSTS PRODUCTIVITY

When it comes to navigational capabilities, *Metasys* takes its inspiration from consumer apps and software. Like everyone else, facility operators are accustomed to intuitive, user-friendly applications in their lives outside of work. *Metasys* has a similarly intuitive design – one that is easy to learn, without the time spent sitting in special training sessions or studying manuals. When the Building Efficiency Panel, a group of more than 3,000 building owners, operators, contractors, and equipment specifiers, was asked what aspects of the experience they like about personal applications, the ability to learn applications quickly and without training were among the top responses.
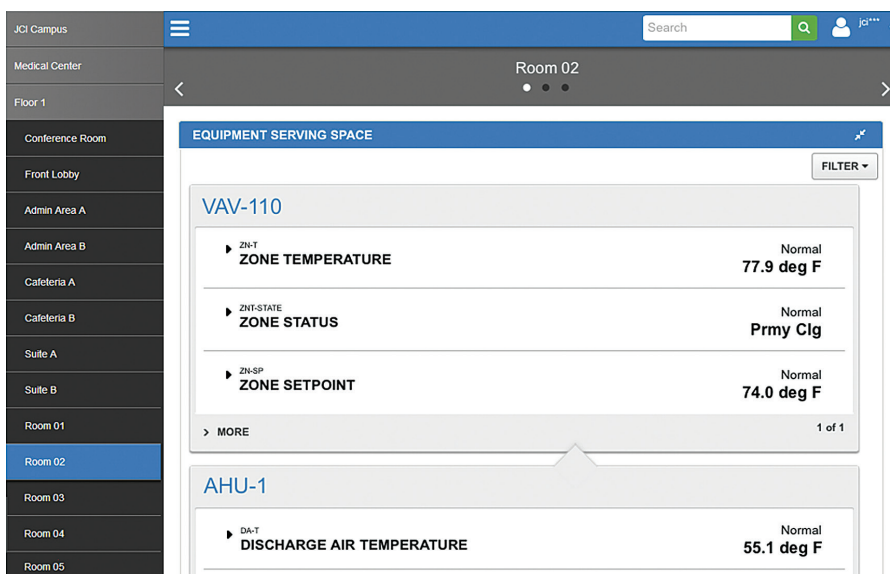
If you were to think about the mobile applications that you use today in both your personal and professional life, what top 3 aspects of those applications do you value the most?

It is similar to other apps that I've used	53%
I'm not tied to my desk or PC	45%
I learned how to use it very quickly	44%

0   20   40   60

Source: Johnson Controls 2013

With *Metasys*, users become productive quickly, because *Metasys* is designed to work how they work. The data is organized by spaces and equipment, making it naturally familiar because it matches how facility operators do their jobs on a daily basis. There's less need for documentation and support and less time learning to use the system. Facility operators can begin using the system just about as soon as it's installed. That lowers operational expenses and improves productivity.

How do customer insights and workflows lead to product design? See insight become action: **johnsoncontrols.com/industryinsights**

Using *Metasys*, facility operators can access data for all the equipment serving each space with one click, whether they are using a smart phone, a tablet, or a desktop or laptop computer.
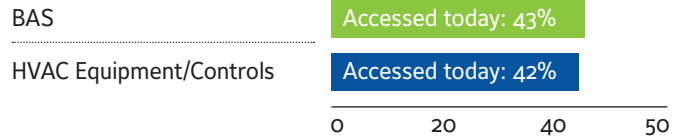
FACILITY STAFFS INCREASING USE OF MOBILE DEVICES

Because facility operators have no time to lose, mobile devices have become essential to their productivity. They enable facility operators to be in control even when they are on the go.
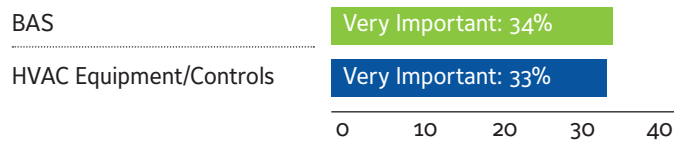
More than 40 percent of respondents to the 2013 Building Efficiency Panel IT Mobility Survey use mobile devices to access their BAS and HVAC equipment and controls. Another one-third of respondents said mobile access would be very important in the future.

Facility operators need to be where the problems are, and the rapidly evolving world of mobile technology is allowing them to streamline their on-the-go workflow. As more systems adapt to take advantage of the broad mobile trend, adoption is set to continue increasing.

Which of the following types of building-related data is accessed today by mobile devices?

BAS	Accessed today: 43%
HVAC Equipment/Controls	Accessed today: 42%

0   20   40   50

As you look ahead 2 to 3 years down the road, how important will it be to access the following building-related data from a mobile device?

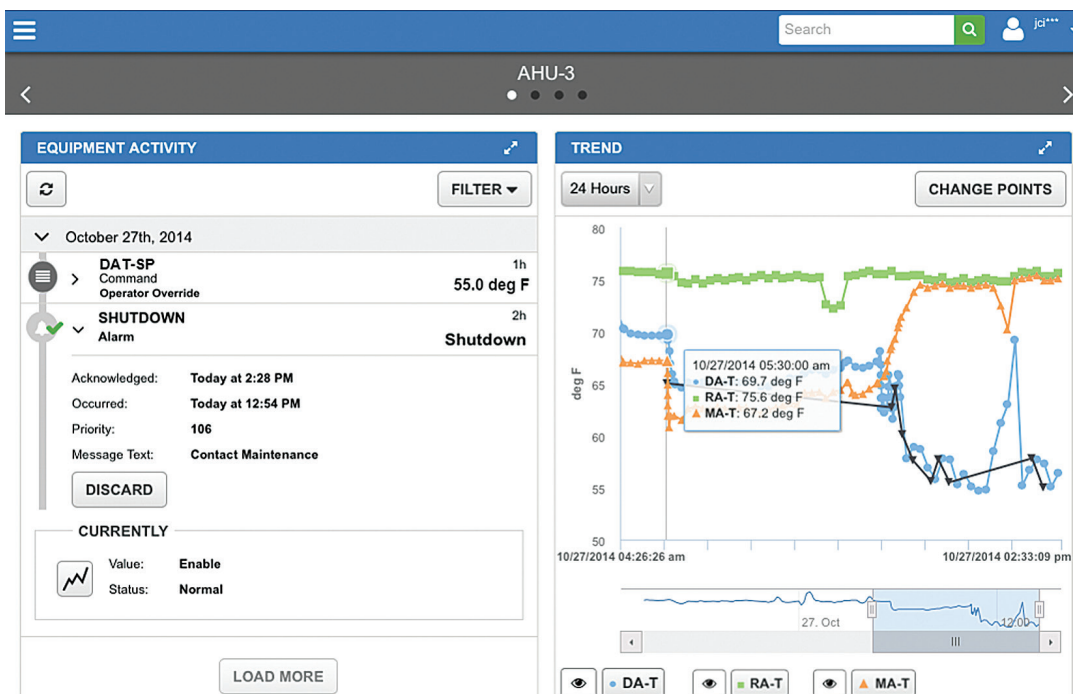|	
BAS	Very Important: 34%
HVAC Equipment/Controls	Very Important: 33%

0   10   20   30   40

Source: Johnson Controls

Trouble-shooting doesn't stop with identifying equipment that isn't operating normally. *Metasys* enables facility operators to see historical data about any piece of equipment serving the space. They can access the Equipment Activity widget to understand what changes have been made to equipment and if there have been any alarms, all without having to return to a desk to log in at a computer station. In our VAV box example, the operator might see that the problem started a few days ago, after an override by someone else, and set the operation back to normal, fixing the issue and getting the room back to a comfortable temperature, all within a few minutes.

The ability to pinpoint the root cause of a problem no matter where the user is currently located enables facility operators to resolve the issue more rapidly and return the building to optimal performance, saving energy and improving comfort. And thanks to user-friendly navigation, the operator gets in and out of *Metasys* as quickly as possible, providing more time for solving problems.

The Equipment Activity widget enables facility operators to view user changes made to specific pieces of equipment and alarms associated with that equipment.

Mobility Reduces Operating Expenses

The *Metasys* development team talked with facility operators, designers, building engineers, and others who work in a variety of building types, including hospitals, universities, K-12 schools, and office complexes. Their research showed that, no matter what type of building, facilities professionals are on the go. They are in their offices just two hours of the 10- to 12-hour days many of them work. They need a building automation system that enables them to be productive while they are in the field.
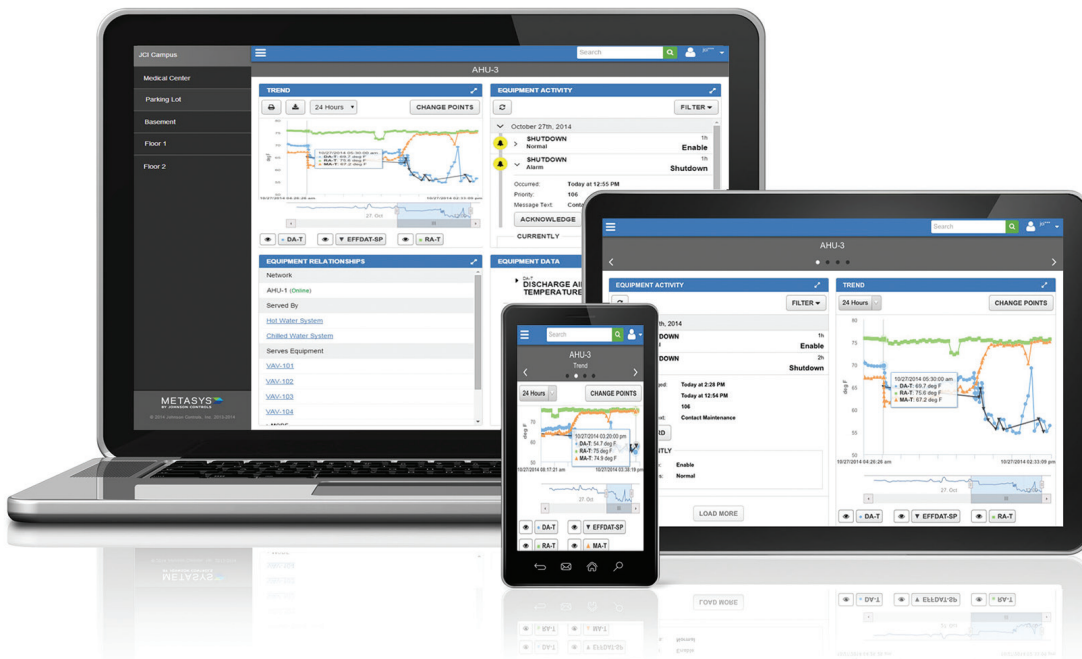
With that in mind, work began on enhancing the *Metasys* experience to be consistent, intuitive, and useful across platforms and operating systems. Actionable data and control capabilities are right where facility operators need them, any time they need them. The result is faster problem resolution, lower operating costs, and better building performance.

For example, if a facility operator is looking at a damper, that operator can use voice commands to access the damper's data on his mobile device, then make a change to the damper's operation and watch to see whether that change solved the problem — all without having to call a colleague sitting at a desktop computer and ask that person to make changes in the BAS. They don't have to return to the facility once they've gone home just to make a correction to the system; they can log in and make changes from anywhere with an Internet connection.

Metasys Takes Buildings To Peak Performance

For facility operators, the bar keeps getting set higher on building performance. Their budgets and staffs are shrinking, yet organizations expect their facilities to operate reliably, efficiently, and intelligently. The right BAS helps facility teams deliver their goals: lower operating costs, reduced energy use, increased productivity, and a safe, comfortable building environment. These goals are sometimes at odds, but the key is to streamline work and resolve issues quickly. That means the BAS must be easy to use and provide critical information at a glance. *Metasys* was designed to be the BAS that enables facility operators to work smarter and make the right decisions faster. *Metasys*' advanced technology offers facility operators what they need today to take their buildings to peak performance.

Take a tour of *Metasys*:
johnsoncontrols.com/metasystour

Metasys offers facility operators an experience that is intuitive and consistent no matter what device they are using, enabling them to be productive more quickly.

Discover a new kind of smart at
johnsoncontrols.com/buildings/building-management/building-automation-systems-bas
or talk to a Johnson Controls representative at (844) 883-1291.

Metasys® is the world's leading building automation system. Its advanced technology provides essential instrumentation and control, which saves energy, lowers operational costs and enables productive and secure environments. It provides information to make better building management decisions and save organizations money.

For more information about research cited in this white paper:
"The Move to a Mobile Facilities Team," report based on a survey of members of the Johnson Controls Building Efficiency Panel.

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