

Analytics Made Easy

RESOLUTE  TM
BUILDING INTELLIGENCE

SOLUTION OVERVIEW

Making analytics easy

Analytics are extremely powerful in helping work get done faster, cheaper, and better, explaining why they are so widely adopted by every discipline across every industry. In the building industry, analytics can be simply defined as the output of a technology-driven process that transforms a lot of scattered and confusing (but important) data into accurate and real-time building insights that services professionals like you can use to efficiently and effectively manage the performance of your customers' buildings.



While the definition of building-performance analytics may be simple enough, the underlying logic and construction of analytics that actually work as intended are complex. **But that doesn't mean they have to be difficult to understand, configure, and use.** After all, what's the point of having access to analytics if they're too hard to figure out and deploy? Analytics are intended to save you time, effort, and money—not waste more of it.

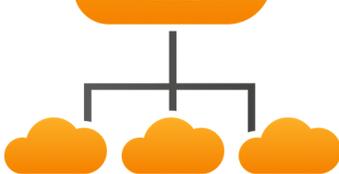
Resolute's powerful and easy-to-use cloud-based building-performance analytics package provides you with a complete building-data collection, aggregation, and analysis solution that delivers day-one value while making your challenging job easier and positioning your business for growth.

Did we mention that analytics don't have to be hard?

With Resolute, it's as easy as 1-2-3

1

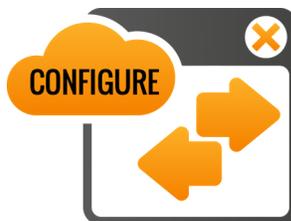
CONNECT



Connect quickly and begin pulling data immediately

2

CONFIGURE



Integrate in hours instead of weeks or months

3

USE



Access clear analytical insights to save time, effort, and money

Tired of harder? Why not try smarter?

Resolute's comprehensive building-performance solution streamlines the process of collecting disparate building data, aggregating, normalizing and analyzing that data, transforming that data into useful and actionable insights, and delivering these insights in real-time, so you can work smarter and not harder to take your business to the next level by providing even more value to your customers.

Seamless

Our solution offers seamless integration from building setup to the delivery of analytical insights. Simply map a set of key points into our integration tool, use our auto- and bulk-mapping functionality to propagate these points across the building's infrastructure, clean-up a few outliers, and you'll be ready to go by day's end.

Comprehensive

Drill all the way down to the point level if needed to gain a better understanding of the problem, helping you quickly determine a proper solution and saving you a tremendous amount of time, energy, and frustration in troubleshooting and finding **real** answers.

Expansive

Quickly see key system and equipment performance issues on every floor of every building under your supervision, identifying the exact location, duration, and severity of these issues for prioritization and resolution.

Automated

Access automatically generated and prioritized action items to effectively complete and track critical tasks as well as automated summary progress and results reports you can easily share with your customers.



Quantifiable

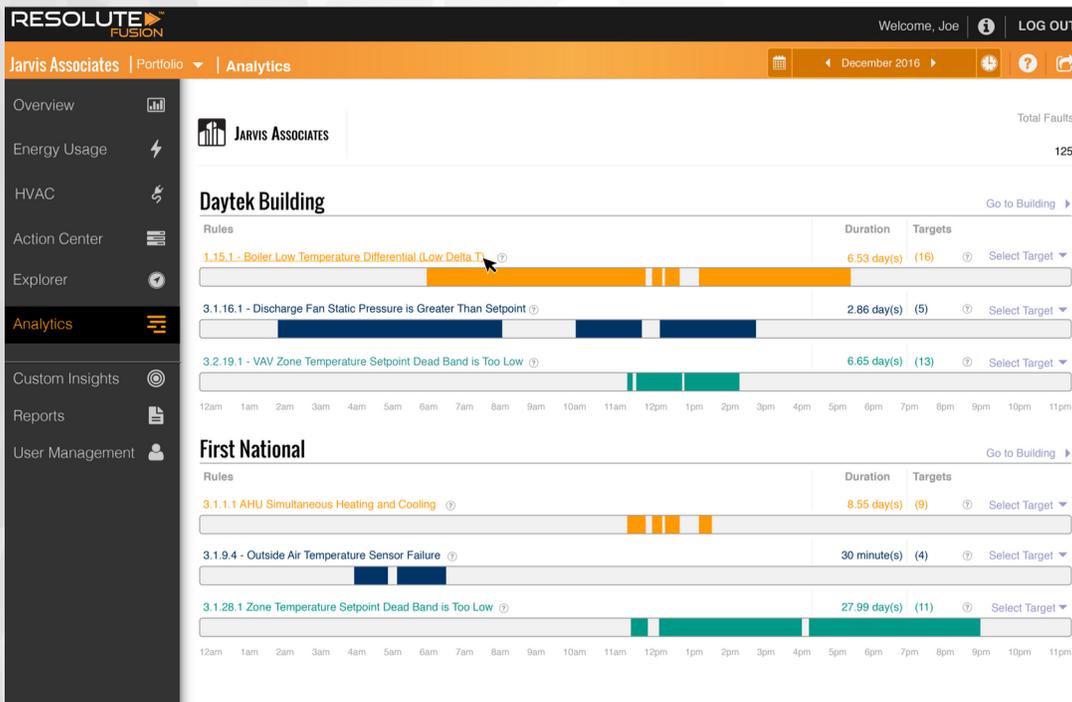
- ✓ More efficient energy use & lower utility costs
- ✓ Proactive equipment tuning & repairs
- ✓ More efficient service troubleshooting & commissioning
- ✓ Reduced or eliminated maintenance costs
- ✓ Real-time analytical data for improved occupant comfort
- ✓ Building use/needs profiles for informed capital-investment decisions

Why you need analytics in your tool kit

Because you really don't have a choice. That is, unless you're okay with getting left in the dust by competitors that are already leveraging analytics and actively integrating them into their overall customer value proposition to create differentiation, to lockout old-school competitors, and to fast-track their businesses to higher ground. When it comes to modern building-performance management, analytics is not a nice-to-have offering. It's a must-have, competitive-differentiating, value-driving business imperative.

If knowledge truly is power, then with Resolute Analytics as part of your building-performance solution, you now have immense power. The power to save enormous amounts of time and effort by replacing assumption-driven guesswork with data-driven answers. The power of being the first to know about building issues and opportunities. And the power to deliver levels of customer value you probably never thought possible and to quantify that value in terms customers understand well—dollars and cents—**making your services indispensable.**

Become indispensable with Resolute Analytics



Analytics-driven insights to proactively prevent or rapidly resolve performance issues, substantially reduce building utility costs, and help your customers make informed capital investment decisions.

Real-time fault detection and alerts for immediate equipment and system performance issue identification.

Automated and prioritized action items to effectively complete and track critical tasks.

Flexible, easy-to-understand results and progress reports that can be shared with your customers.

Comprehensive and centralized performance visibility across all the facilities under your supervision.

You shouldn't have to write the rules that make the analytics work. **That's our job.**

IT BOGGLES OUR MIND

Why anyone would buy an analytics software package that requires you to write your own rules to make the analytics work. That's like having to program your own operating system before that beautiful new computer you just bought will be anything more than an expensive room decoration.

At Resolute, we don't make our customers write their own rules to get value from our software. We think that's our job. As energy and analytics experts, we **KNOW** that's our job. As such, our experienced team of energy engineers and big-data professionals work closely with our highly skilled development team to continually design, develop, and implement useful analytics **and their accompanying rules** into our software, so you can focus on your job—optimizing the performance of your customers' buildings.

Points-to-Rules Summary

AHU / RTU

30 points that run approx. 40 rules

BOILER

5 points that run approx. 11 rules

CHILLER

5 points that run approx. 11 rules

FCU

7 points that run approx. 6 rules

HEAT PUMP

7 points that run approx. 6 rules

VAV

10 points that run approx. 13 rules

Quickly and efficiently map the following key points into Resolute Synergy™—our analytics integration tool—and we'll take care of the rest.

AHU / RTU

Building Static Pressure
Cooling Command
DA Fan Command (single or common)
DA Fan Frequency (single or common)
DA Fan Speed (single or common)
DA Fan Status (single or common)
Discharge Air Flow
DA Humidity
DA Pressure
DA Pressure Setpoint
Discharge Air Temperature
DA Temp Setpoint
Exhaust Air Flow
Heating Command
Mixed Air Temp
Outside Air Damper Command
Outside Air Damper Min. Pos. Setpoint
Outside Air Flow
Outside Air Flow Min. Setpoint
Outside Air Humidity
Outside Air Temperature
Occupied Mode
Occupied Cooling Setpoint
Occupied Heating Setpoint
RA Air Flow
RA Humidity
RA Pressure
RA Temp
Zone Pressure
Zone Temperature

Boiler

Boiler Command
Entering Water Temperature
Leaving Water Temperature
Boiler Leaving Setpoint
Boiler Status

Chiller

Chiller Command
Entering Water Temperature
Leaving Water Temperature
Chilled Water Setpoint
Chiller Status

Heat Pump

Cooling Command
Discharge Air Temperature
Heating Command
Occupied Mode
Occupied Cooling Setpoint
Occupied Heating Setpoint
Zone Temperature

FCU

Cooling Command
Discharge Air Temperature
Heating Command
Occupied Mode
Occupied Cooling Setpoint
Occupied Heating Setpoint
Zone Temperature

VAV

Discharge Air Flow
Discharge Air Flow Setpoint
Discharge Air Temperature
Damper Position
Occupied Mode
Occupied Cooling Setpoint
Occupied Heating Setpoint
RA Air Flow
Zone Humidity
Zone Temperature

Utility Meter Analytics

Our software also incorporates a set of utility meter analytical rules to help you **see, understand, manage** and **optimize** energy use in your customers' buildings.

- Demand Response
- Load Shedding
- Peak Load Reduction
- Base Load Reduction
- Baseline Generation
- Energy Savings Calcs
- Load Profiles
- More

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Resolute Synergy™ and Resolute Fusion™ were designed from the ground-up to help building services professionals optimize the performance of their customers' facilities by rapidly and accurately transforming the massive amounts of incoherent performance data generated daily by building systems and equipment into real-time answers to real-world problems. Resolute was founded by tech-industry veterans with extensive experience developing big-data, cloud-based software solutions for large enterprise customers across multiple verticals such as real estate,

banking, transportation, manufacturing, and others. In short, we are big-data, software experts. The Resolute technology team includes highly skilled software developers, energy engineers, system integrators, and analytics experts. This unique blend of talent comprises the core competencies, skills, and experience needed to build an innovative and intuitive analytics solution powerful enough to competently address today's building-performance challenges while helping you take your business to the next level.