



Run your buildings better with cello  
***IoT For Smart Buildings***

Less energy. ***More comfort.*** Reduce costs.



# Secure Cloud Based Energy Controls

*cello Augmented Intelligence BAS*



# What is Building Automation?

## *cello Augmented Intelligence BAS*

Building automation allows management to remotely monitor and optimize a building's systems, including HVAC, lighting, and plumbing. Building automation systems (or BAS) are powered by sensors, controllers, and network infrastructure installed throughout the building and managed from a single application. BAS's can also include a building's safety and remote access systems.

The first generation building automation systems are costly, ranging from \$2.50-\$7.00 per square foot. That means a 100,000 square foot building could expect to pay at least \$250,000 to install a traditional BAS.

However, IoT technology has made new, cloud-based building automation systems affordable even for small buildings. Using inexpensive smart sensors connected over a low-power Bluetooth network, IoT-powered BAS's can be installed onto existing building systems. This removes the need for expensive, specialized hardware and installation.

According to Intel, adding IoT-based controls and systems to a building can cost as little as \$5,000-\$50,000 per building. That means buildings of all sizes can expect to see a faster ROI and more savings over the years.

# Getting Started with cello

## *cello Augmented Intelligence BAS*

Like any new technology, building automation systems still have challenges that developers need to understand and plan for.

- **Upfront Cost.** Using a targeted and phased deployment approach, the upfront cost can be reduced to meet existing customer budgets.
- **Cybersecurity.** With the move to cloud-based storage and low-power networks, cybersecurity has become a pressing issue. In addition to secure cloud data communications and storage, cello's AI BAS can be installed in a secure dedicated customer environment if cloud bypass is desired.

Despite the above challenges, the properties that install **cello AI BAS** see immediate improvements for their occupants and staff. Property owners will see ROI faster than ever, sometimes in as little as one year.

Building automation can seem daunting, but you do not have to tackle it alone. Working with ASE's experienced team of energy control specialists will make your life easier and ensure you get the most out of your building automation investment. [Our smart building experts are ready to talk if you have any more questions.](#)

# Building Blocks

## *cello Augmented Intelligence BAS*

The **cello AI BAS** is comprised of the following primary subcomponents

- **Core.** Scalable local server to manage the building energy consumption. Ensures zero downtime and operates independent of the cello cloud in the event of cloud communications disruption. Supports BACnet IP and MSTP.
- **Thermostat.** One thermostat with optional modulating control support for any type of HVAC system.
- **Occupancy Sensor.** Allows the cello AI BAS to operate without pre-set schedules. Optionally used to manage lighting.
- **Cloud or dedicate server.** Reports generation, peak demand management, troubleshooting, notifications and a slew of other AI services.

Optional **cello AI BAS** subcomponents

- **Electricity, water, gas submetering.** Provides the customer the ability to measure consumption per tenant or other configurations.
- **Controlled HEPA filtration.** Scrubbing of contaminants and viruses such as covid-19. Provides compensation for static pressure increase due to HEPA filtration.
- **High Volume Low Velocity (HVLS) fans.** Provides additional comfort and energy

# Incremental Services

## *cello Augmented Intelligence BAS*

The *cello AI BAS* solution offering is a one stop shop comprising the following optional additional services

- **Energy Audit.** An energy audit is typically required before any energy efficiency solutions are implemented. The energy audit typically inspects and measures the performance of current HVAC and lighting systems, the building envelope ensuring any energy efficiency expenditure is properly analysed and justified with a clear ROI.
- **HVAC and Lighting Equipment Retrofit.** In some cases, HVAC and/or lighting equipment retrofit is required to achieve the customer energy savings target. ASE has reseller agreements with North American HVAC and lighting manufacturers ensuring the customer receives the most favored nation pricing.
- **Building Insulation.** Insulation plays an important part in a building energy efficiency strategy.
- **Window Inserts and films.** Sometimes replacing windows is quite expensive. ASE offer customers window insert and film solutions to eliminate air leaks, reduce glare, solar gain and heat loss which increases the energy savings and comfort.

# Take the Next Step

To learn more about ASE's innovative energy control solutions, visit <https://www.cello.solutions/>