CONNECTIVITY JOURNEY GUIDE

5 step connectivity journey guide
to elevate building performance

Honeywell

CONNECTIVITY JOURNEY GUIDE

Over the last few years, the leap forward in cloud computing and adoption of AI has helped the Building Technology industry move towards cloud-based connected systems. Building operators are now asking for features that are normally associated with the consumer world from their building technology providers, and this is driving significant interest and growth in having a smart connected building.

Connectivity is the means to elevating building performance and achieving the outcomes that matter most – uptime, compliance, energy efficiency, and risk mitigation. However, implementing a connected system may still seem like a step into the unknown for building owners and managers, who are not experts in the technology.

A defined connectivity journey can help to demystify cloud-based systems and help building owners and managers to get the most out of their investment in digitalizing their assets.

STEP 1

CONNECT ASSETS IN DAYS

Buildings are complex due to the diverse array of equipment and technologies, as well as the unique Information Technology (IT) infrastructure in each application. Besides the challenges of navigating IT processes and standards, each technology has its own protocols. However, these past challenges are much more easily overcome with modern cloud-based approaches to building management.

NATIVE CONNECTIVITY

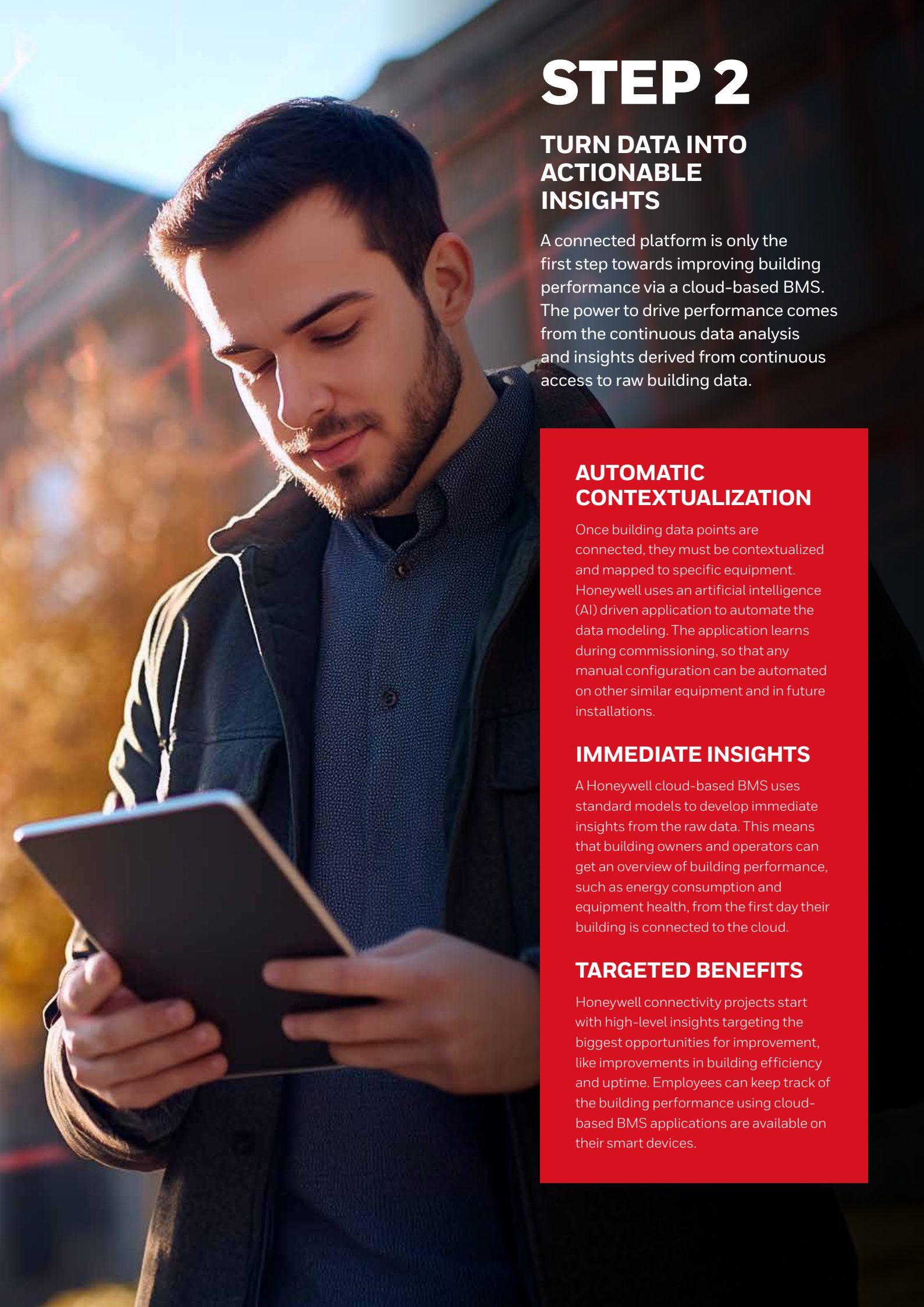
To overcome these challenges, Honeywell supplies equipment and sensors with native connectivity. Many other original equipment (OEM) providers are following the same trend by building smart devices where connectivity is the default for greater flexibility in connectivity.

OPEN PROTOCOLS

Open protocols such as BACNet enable all compatible legacy systems to connect easily. Even though the update rate may not be as fast as native connectivity, the data will still be useful for most applications. This ability to connect to any system makes a modern cloud-based BMS vendor agnostic, which is a significant step forward in connectivity.

SIMPLE FIREWALL CONFIGURATION

IT system configurations are limited to a few open ports and firewall configurations that act as a conduit for all outbound data to the cloud. Even though it is possible to integrate several cloud-based service providers using APIs, it is still preferable to work with a single service provider at the cloud level to maximize data security and compliance.



STEP 2

TURN DATA INTO ACTIONABLE INSIGHTS

A connected platform is only the first step towards improving building performance via a cloud-based BMS. The power to drive performance comes from the continuous data analysis and insights derived from continuous access to raw building data.

AUTOMATIC CONTEXTUALIZATION

Once building data points are connected, they must be contextualized and mapped to specific equipment. Honeywell uses an artificial intelligence (AI) driven application to automate the data modeling. The application learns during commissioning, so that any manual configuration can be automated on other similar equipment and in future installations.

IMMEDIATE INSIGHTS

A Honeywell cloud-based BMS uses standard models to develop immediate insights from the raw data. This means that building owners and operators can get an overview of building performance, such as energy consumption and equipment health, from the first day their building is connected to the cloud.

TARGETED BENEFITS

Honeywell connectivity projects start with high-level insights targeting the biggest opportunities for improvement, like improvements in building efficiency and uptime. Employees can keep track of the building performance using cloud-based BMS applications are available on their smart devices.

STEP 3

CONFIGURE THE SYSTEM TO YOUR NEEDS

Buildings do not all operate in the same ways. Facility managers may have very different needs and priorities for a single premium commercial tower, a rural healthcare facility or a national chain of retail shops – so there is a need for flexibility to adapt to each scenario when configuring your connected cloud-based system. For example:

- Building uptime is critical for healthcare facilities due to the impact of downtime on patient experience and revenue generation.
- Occupant experience is vital for a premium commercial tower, making the automatic control of temperature and air quality a primary requirement.

PREDICTIVE MAINTENANCE

A Honeywell cloud-based BMS enables engineers to configure AI models that can evaluate equipment health and can predict failure. These tools enable facility managers to plan maintenance activities and interventions before a piece of equipment fails – thus improving building uptime.

CENTRALIZED SERVICES

As a service provider, Honeywell operates the Honeywell Building Operations Center, a remote centralized team to evaluate data and insights from the cloud-based BMS. This enables expert engineers and domain specialists to provide insights and direct actions from a remote location, making these resources accessible to building operators despite their scarcity in the industry.

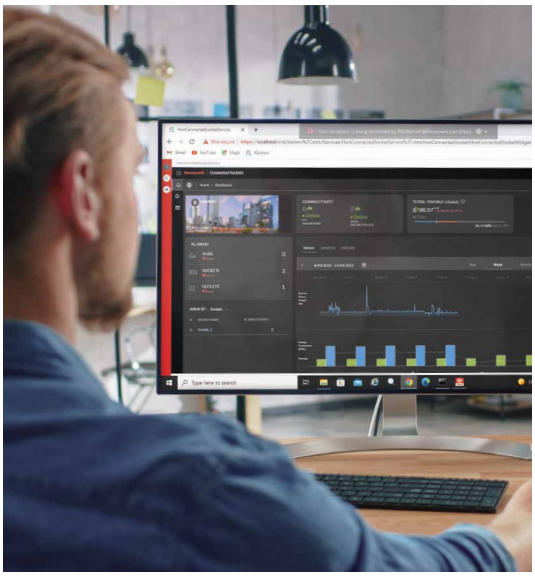
PUSH UPDATES

Using a cloud-based system also simplifies product updates and security patches. A cloud-based BMS operates on a subscription basis so that software updates are available immediately and can be automatically pushed out to every user and application simultaneously.

STEP 4

IMPROVE OPERATIONS TO ACHIEVE YOUR GOALS

Building operators have the option of passive or active interventions to drive operational improvements depending on their operating philosophy.



PASSIVE BUILDING MANAGEMENT

Passive methods require human intervention to adjust the building operation and improve performance. Domain experts can analyze data and make recommendations to the building operator or their service providers for implementation. This approach can become complex when domain experts from the BMS provider are giving instructions to other service providers on behalf of the building operator.

ACTIVE BUILDING AUTOMATION

Active capabilities interact with building control systems to make automatic adjustments to the building operation based on analytical insights. This is particularly common in energy management, where chillers or boilers can be optimized to building conditions at any moment based on real-time conditions and needs. Closed-loop control offers significantly higher benefits than passive control because the time to make an adjustment is much shorter.

AI-DRIVEN BUILDING AUTOMATION

AI-driven closed-loop control offers the greatest benefits of all due to the intelligent control decisions based on building occupancy and past experience. As a controls company, Honeywell offers technologies and services that include connected BMS capabilities as well as the ability to implement closed-loop control.

STEP 5

ADAPT AND IMPROVE OVER TIME

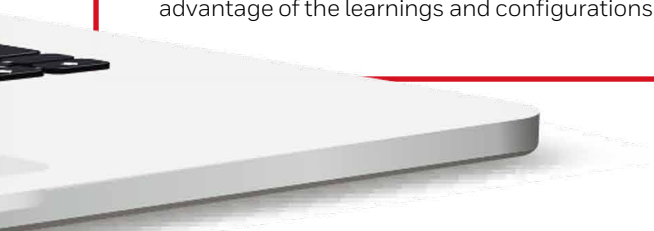
Cloud-based BMS capabilities are modular and adaptable. This means that facility managers can add new applications as the need arises with the aim of continuous improvement in building performance.

ADDING RELEVANT APPLICATIONS

The connected architecture makes it possible to add any number of applications (e.g., predictive maintenance or energy management) at any time. Honeywell offers domain expertise to evaluate which modules to add or remove. Updates can be rolled out to all users and connected sites, making deployment of new features simple.

SCALING TO MULTIPLE SITES

A final step in a connectivity journey for multisite building owners and operators is to work toward achieving ROI at scale. A cloud-based BMS offers flexibility and scalability due to its remote connectivity. This approach takes advantage of the learnings and configurations of one site to improve every site quickly and efficiently.



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STEP 2 TURN DATA INTO ACTIONABLE INSIGHTS

STEP 3 CONFIGURE THE SYSTEM TO YOUR NEEDS

STEP 4 IMPROVE OPERATIONS TO ACHIEVE YOUR GOALS

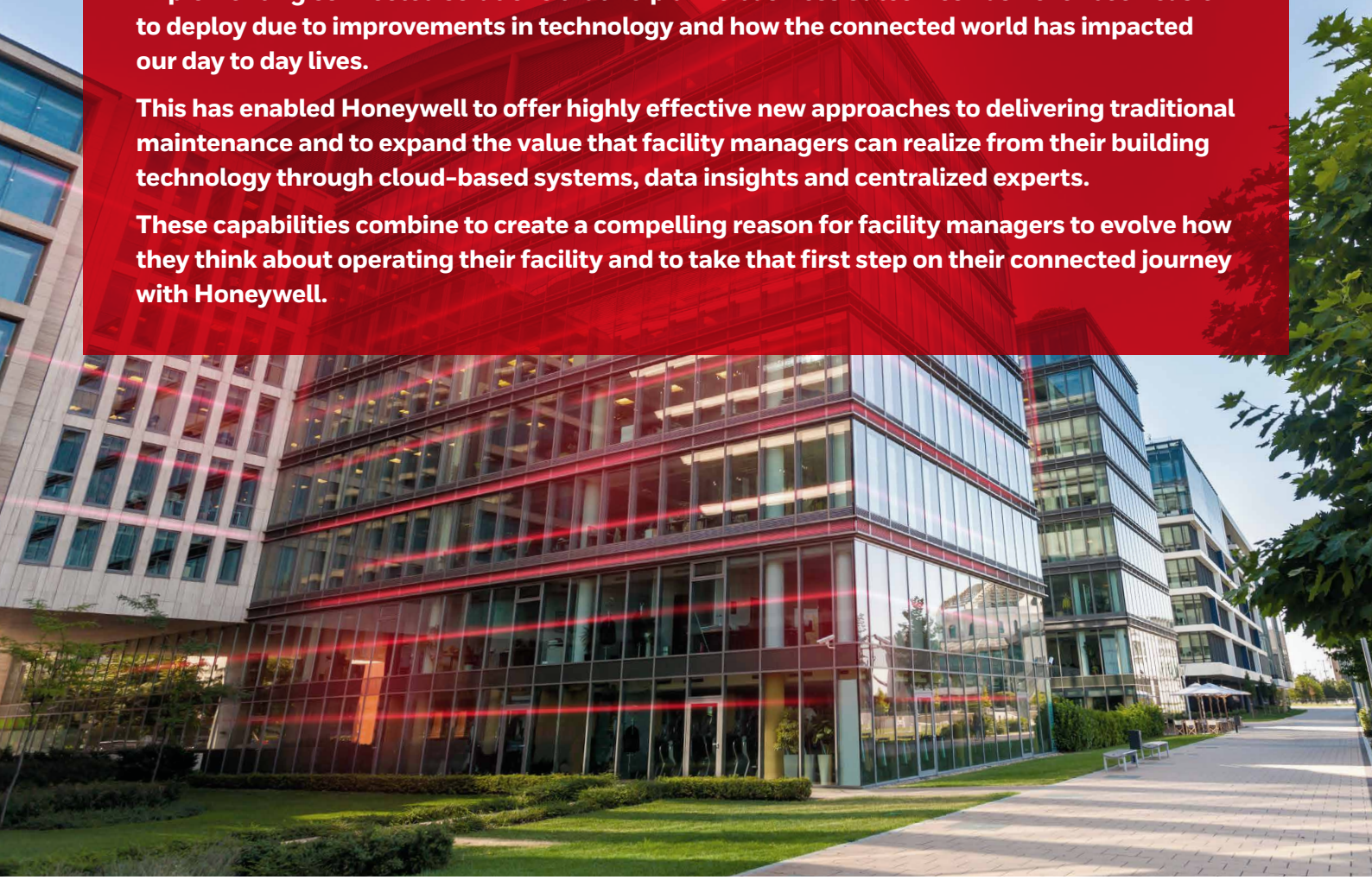
STEP 5 ADAPT AND IMPROVE OVER TIME

SUMMARY

Implementing connected solutions that help drive business outcomes has never been easier to deploy due to improvements in technology and how the connected world has impacted our day to day lives.

This has enabled Honeywell to offer highly effective new approaches to delivering traditional maintenance and to expand the value that facility managers can realize from their building technology through cloud-based systems, data insights and centralized experts.

These capabilities combine to create a compelling reason for facility managers to evolve how they think about operating their facility and to take that first step on their connected journey with Honeywell.



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