

Solution Overview

Connected Places

Buildings are getting smart. Are you optimizing facilities management to save money, improve operations, and enhance customer experience? If not, it's time.

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Facilities don't think for themselves. But you can make them smarter.

Leveraging digital connectivity and IoT is the way forward for facilities, yielding lower overhead, improved customer experience and a better bottom-line.

Ongoing operating costs represent 50% of a building's total expenses over an estimated 40-year life-cycle, lowering net operating income and lessening property value.

Worldwide, buildings consume 42% of all electricity. Half of that is wasted, and the average building loses 30% of its energy due to built-in inefficiencies. **Combined energy costs for nearly six million commercial buildings and industrial facilities in the U.S. is estimated at $400 billion**.[1]

This presents a compelling argument to facilities managers — to address how buildings can further reduce their energy costs and increase operating efficiencies. Benefits include a better environment for workers, tenants, and customers, improved compliance with increasingly stringent regulations, and higher net operating income. That's not all. For retailers and industries that need to protect inventory from damage, reduce spoilage, or monitor a widely disparate installed base of equipment such as vending machines or refrigerators, connectivity across the organization's assets provides greater visibility and management control of risks.

Digital: delivering on the promise

The connected facility is the future — for building managers, owners, lessors and their tenants.

Digital connectivity now touches every aspect of our lives. And facilities management presents compelling opportunities to improve operational performance — with efficiency gains, energy cost-savings and improved environmental conditions for workers and customers.

Cognizant is a global leader in guiding and implementing digital transformation for clients across industry — from hospitals to hotels, from pharmaceuticals to banking and financial services companies. Our team provides services tailored specifically to building owners and operators, adaptable to their global footprint.

Buildings change slowly. Management can't afford to. From controlling costs to reducing compliance risk, today's facilities manager must help drive value.

Reducing complexity, gaining visibility

Every facilities owner or operator knows the complexities of managing environmental systems and equipment.

Building age is often a factor across an owned portfolio of real estate, and with widely disparate control systems in place, systems need varying degrees of maintenance. And managers have little visibility into operations.

Heterogeneity in Building Management Systems (BMS) inhibits unified monitoring or automated remediation. Adjusting controls is frequently a time-consuming manual activity, with attendant personnel costs — including for outside contractors. Such activity is inherently static and rigid. Controls cannot adjust to real-time needs. Inefficient maintenance of equipment leads to higher costs, wasted resources, and occupant discomfort. This also contributes to the discomfort of occupants — whether they are employees, customers or tenants.

Fortunately, large organizations with multiple facilities or a large asset footprint can leverage the growing capabilities of IoT to develop near real-time, automated management of disparate environmental systems.

Bringing building value

Organizations that pursue smart facilities management initiatives can realize tremendous opportunities for innovation and productivity across all categories of buildings, including commercial, residential, and municipal-owned facilities.

Facility managers at commercial buildings are benefitting not only from reduced energy use, increased up-time of equipment assets, streamlined operations and regulatory compliance, but also from predictive and preventative maintenance of buildings. Benefits include the ability to:

- Control environment at multiple sites for energy savings, including schedules for regular use, and responding to weather or peak use.
- Monitor environmental systems in real-time, to learn when systems are working or not.
- Perform predictive maintenance, remotely update software, or add new features to connected building systems and controls.
- Address complaints or requests from employees, customers, or tenants to increase occupant comfort.
- Gather data on building energy use, temperature and humidity, and related inputs to allow analysis for optimizing space use and lowering costs.
- Extend IoT capability to a complete range of installed or mobile equipment to allow monitoring, such as refrigeration units at warehouses, commercial ovens, delivery vehicles, dispensing or vending machines, and operational equipment such as HVAC systems.

Cognizant OneFacility solution accelerator

Cognizant OneFacility is a platform-agnostic solution accelerator that helps companies integrate multiple existing systems and sensors in any facility to provide analytical and timely insights to all stakeholders, on a universal facilities management dashboard.

Cognizant OneFacility: integrating systems for a universal view

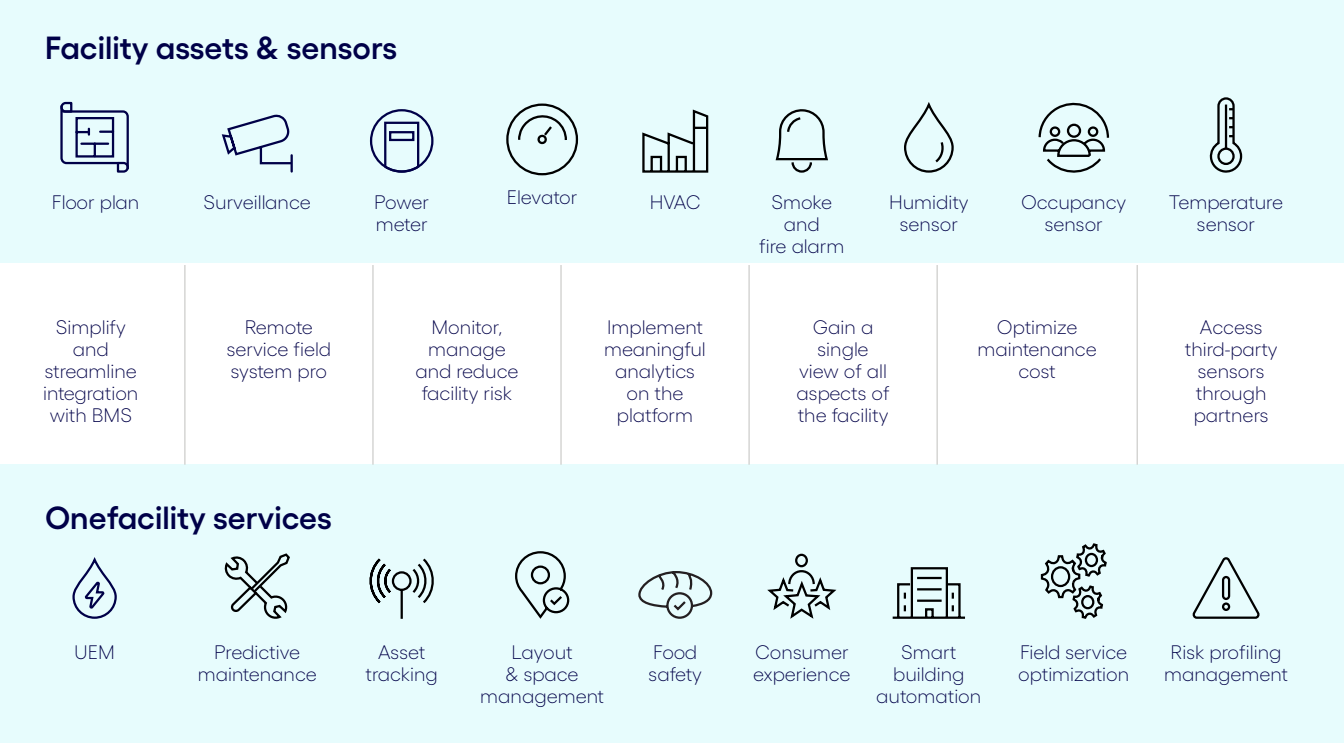


Figure 1

Partnerships for facilities management solutions

Cognizant has partnerships with all major providers of building management systems and technology.

Cognizant is adept at designing and implementing a range of digitally enabled building management systems to monitor and interpret environmental and equipment data across facilities. We develop and deploy a combination of IoT platform capability, sensors, and off-the-shelf or customized BMS and Integrated Workplace Management Systems (IWMS) applications to provide integrated solutions to owner/operators

OneFacility: integrating disparate systems for decision-making

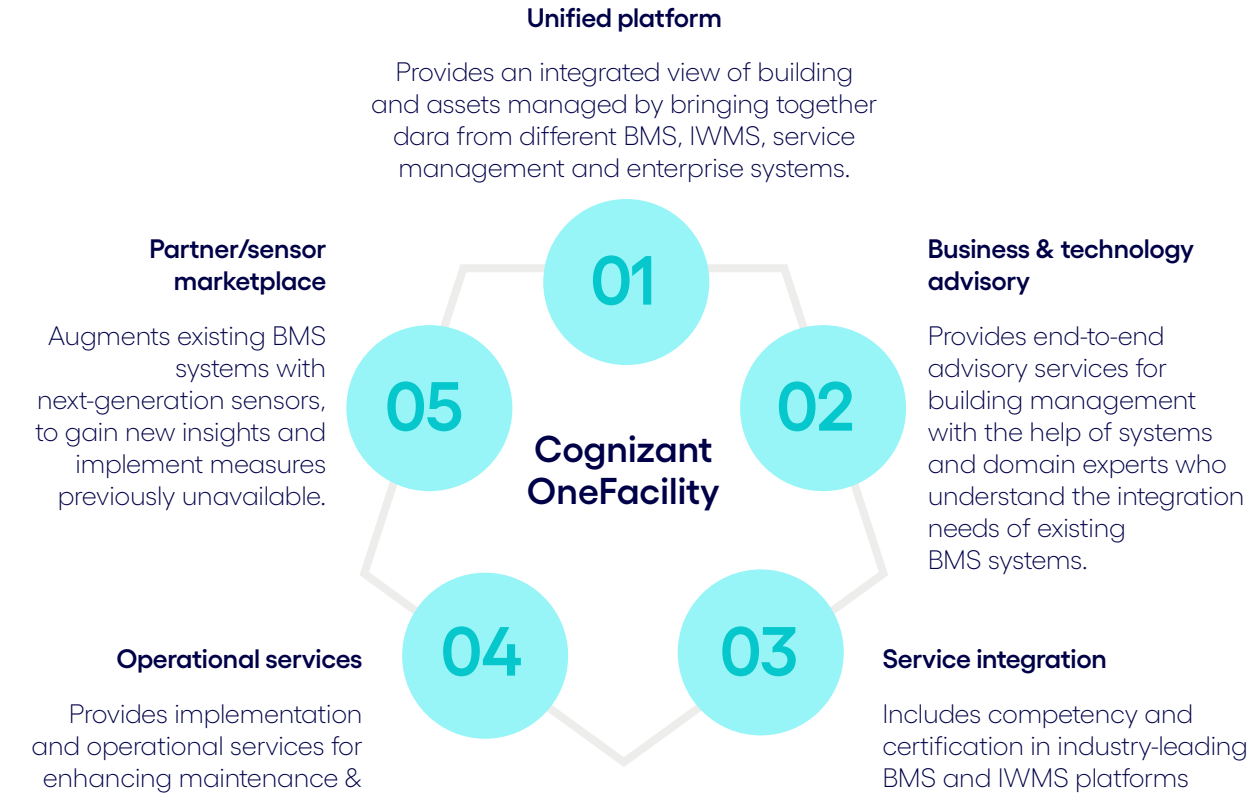


Figure 2

OneFacility is an integrated solution accelerator that connects and consolidates disparate systems and sensor data, to provide actionable insights across multiple functions.

The journey to business value

Cognizant can help you build building value.

Not only do we understand the strategic and operational drivers of facilities management IoT initiatives, but we can design and implement a solution that combines a digital IoT management platform, state-ofthe-art sensors and electronic control systems from industry-leading vendors, custom applications, and end-to-end integration. Facilities managers can therefore:

- Improve operational visibility into disparate building systems
- View comprehensive analytics on individual buildings
- Gain an integrated view of operations across a portfolio
- Perform proactive, scheduled maintenance and servicing
- Leverage systems on a single platform for interoperability and efficiency

The connected places journey: from concept to new capabilities

1 **Research & pre-work**	2 **Define digital vision**	3 **Describe end-states**	4 **Identify opportunities**	5 **Roadmap & pilot**

• Examine industry trends and market dynamics
• Analyze existing opportunities and challenges
• Identify trends in focus areas
  • Real estate
  • Smart spaces
  • Digital city
• Synthesize findings to gain insights
• Prepare a comprehensive point of view
	• Organize interviews and/or meetings with key stakeholders
	• Understand current business challenges and needs
	• Understand key initiatives in-flight
	• Develop future scenarios
		• Describe high-level future state with respect to digitization of spaces
		• Identify key work areas across facilities management discipline
			• Identify improvement initiatives and common themes across divisions
			• Identify the big wins and quick win opportunities
			• Do a capability analysis to identify the actionable points
				• Build a detailed roadmap
				• Develop capability development plan
				• Prioritize use cases and define timelines for pilot

Envisioning future state			Developing roadmap	

Figure 3

Connected places solutions driving value across industry

We have performed facilities management technology projects for a range of commercial real estate, industrial, insurance, and retail clients.

We provide insights along with IoT platform development capabilities, and apply our business, design, and technology expertise across the entire device-to-cloud technology stack. Notable projects have included:

- **Energy schedule automation for a leading department store:** We developed a OneFacility schedule automation module at a national US department store chain, in partnership with its HVAC contractor. Our solution addressed a constant stream of requests from its stores to adjust temperature and lighting. Our solution integrates multiple proprietary, legacy, and third-party systems, enabling a single point of control and automated coordination between lighting and HVAC systems across 2,000 stores for faster response.
- **Portfolio risk management program for national insurer:** We developed a platform for a global Property and Casualty insurer to source BMS data from disparate systems across a portfolio of insureds' buildings. Our solution captures sensor data from more than 100 data-points in each building to monitor risk and escalate critical issues. Our solution sources data formerly captured only through on-site engineering reviews, helps the client to anticipate risk, provides key management information to insureds, and allows the insurer to offer more attractive policies and premiums to well-managed buildings.
- **Smart work solution for world's largest quick service restaurant:** We overtook the smart facility functionality and integrated work management systems of multiple incumbent vendors at the request of the world's largest quick-service restaurant. Our mandate is to smart-enable their buildings using sensors and Cloud-connectivity, and to streamline work-order management and space management, using IBM Tririga.
- **Energy efficiency solution for telematics provider:** The housing authority in one of the largest cities in the US pledged to install more energy-efficient outdoor lighting in its public housing facilities and to ensure up-time. For the company awarded the contract, we built a solution to remotely manage the equipment, including controls to turn them on and off, and providing supplement power to their generators as needed.
- **Food spoilage prevention for global retailer:** A leading retailer and supermarket suffers staggering annual food waste losses due to faulty refrigeration or inconsistent storage. By implementing an IoTenabled real-time refrigeration monitoring platform, we helped the company reduce annual losses by 10%. Flexible and highly scalable, our platform monitors more than 100 million alerts a year across 200 of the retailer's North and South American stores, and saves more than US $40 M in forecasted annual operating costs.





Learn more

Cognizant is uniquely qualified to help today's facilities managers to develop and implement a comprehensive, flexible, integrated digital property management platform — from concept to piloting to implementing at scale.

We invite you learn more about Cognizant solutions and our capabilities to deliver end-to-end IoT solutions at speed and scale.

Visit us at **cognizant.com/enterprise-iot-solutions.**

Endnotes

1. National Institute of Standards and Technology, "Impact of More Precise Construction Data on Estimated Savings from Energy Standard Adoption for Commercial Buildings," Joshua D. Kneifel, David T. Butry, December 19, 2014. **www.nist.gov/publications/impact-more-precise-construction-data-estimated-savings-energy-standard-adoption.**

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Cognizant (Nasdaq-100: CTSH) engineers modern businesses. We help our clients modernize technology, reimagine processes and transform experiences so they can stay ahead in our fast-changing world. Together, we're improving everyday life. See how at **www.cognizant.com** or **@cognizant**.

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