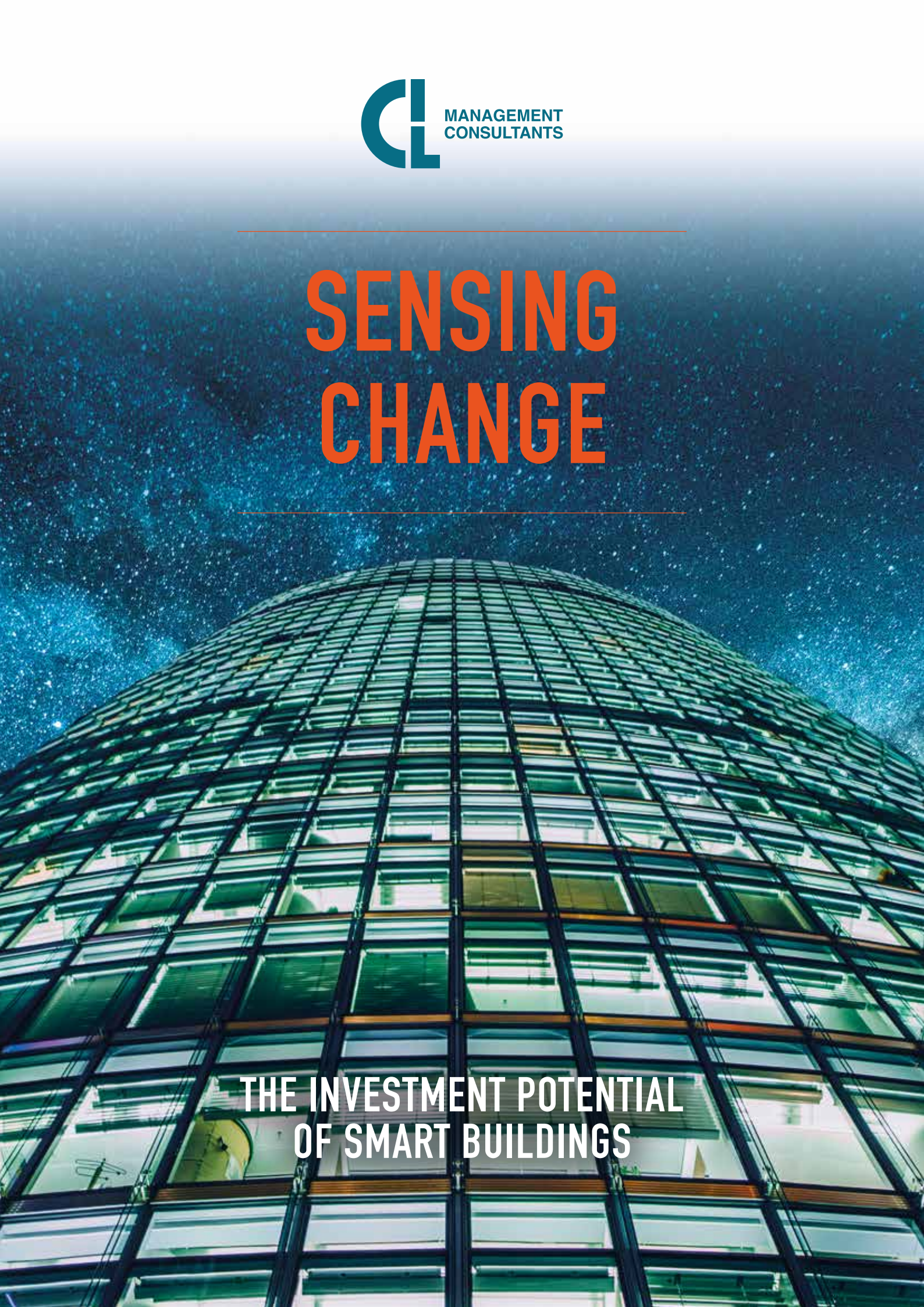


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# SENSING CHANGE

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THE INVESTMENT POTENTIAL  
OF SMART BUILDINGS



## AT A GLANCE

- CIL interviewed 150 landlords, property managers, agents and suppliers across North America and Europe.
- Energy efficiency has risen up the agenda and driven investment across the built environment.
- Smart technology offers new and better ways to control building systems and to engage with occupants.
- These new technologies in turn enable embedded facilities management and a range of new product and service opportunities.

# AN EVOLVING MARKET

Built in Amsterdam in 2015, the Edge is a 40,000m<sup>3</sup> office building designed around controls, sensors and connected systems in order to improve energy efficiency, space management and worker engagement. It remains a brilliant example of a ‘smart building’, but to-date little of the technology it showcases has seen widespread adoption.

Proven technology has the potential to change business models and materially disrupt products and services into the built environment. But why has it taken so long? Perhaps the world hasn't been quite ready or – more specifically – perhaps it was harder for estate managers to build the economic case. The wired solutions installed in the Edge building were both expensive and not suited for the retrofit market. However, the next generation of products is now coming to market – these new wireless systems have a lower price point, are easier to fit and are starting to see meaningful adoption.

To understand what's really happening, CIL spoke to over 150 landlords, property managers, agents and suppliers across North America and Europe. We discussed important areas of focus and predicted associated spend with each of our interviewees.

This paper looks at the key themes we identified, including energy efficiency, the changing face of facilities management and the use of smart sensors and controls, explaining how these elements are coming together.

# HVAC AND LIGHTING: FRONT OF MIND

Improving the energy efficiency of commercial real estate (CRE) has become a top priority for estate owners. This move is driven by an increased focus on combatting climate change, new regulation and a desire for cost-cutting.

The conversations we have had with estate managers show that investment in building refurbishments and system upgrades is on the rise, with 84% of those surveyed stating an increase in future spend.

Currently, this investment is mainly directed towards LED lighting that can substantially reduce the cost of building maintenance. One of our respondents cited a payback just three years after replacing the traditional lighting system of a 12-storey building with LEDs.

Interestingly, our research also shows that investment in expensive, advanced heating, ventilation and air conditioning (HVAC) systems – which take longer to reach a return on investment – is on the rise too.

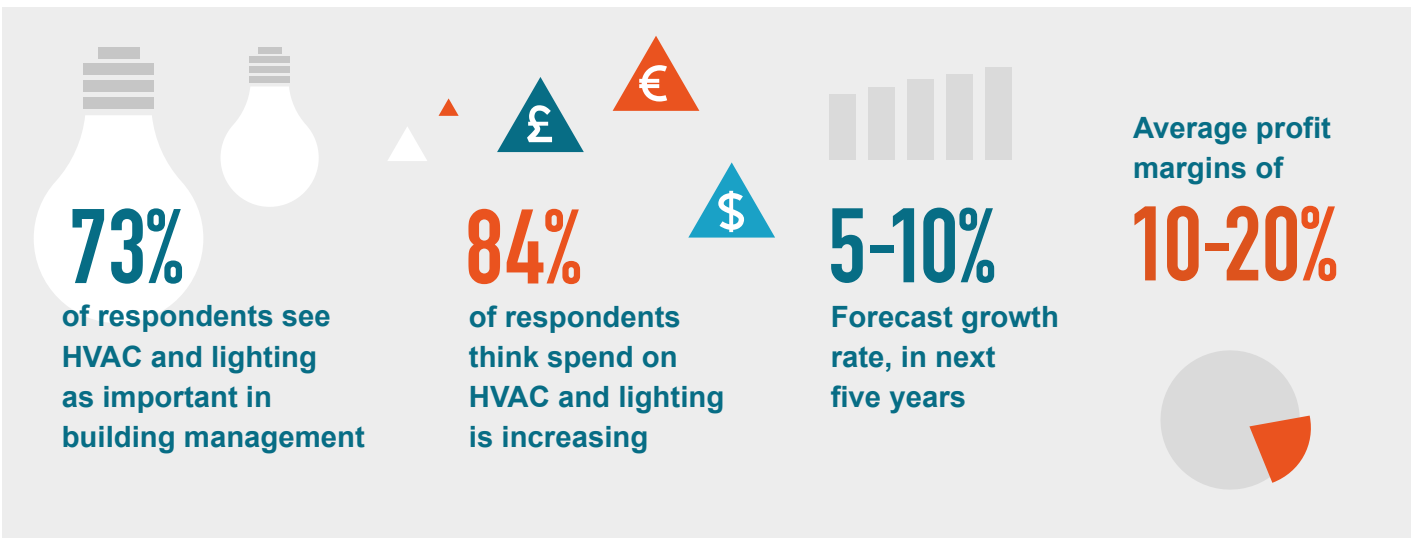
The investment potential for this vertical is partly inhibited by the relationship between landlord and tenant. Landlords need to see quantifiable demand from tenants in order to realise the required ROI. While our interview base felt that this demand was increasing, it has some way to go. The landlord vs. tenant problem is less of a feature in retail and hospitality, which is why these sectors have led the way in investment.

## **Sector outlook**

HVAC and lighting are already a big part of energy spend. We forecast a 5-10% growth rate over the next five years driven, in part, by the adoption of more advanced systems.

Lighting changes can happen on a floor-by-floor basis which allows for piecemeal adoption de-linked from major fit-out cycles. Our research shows that lighting has progressed ahead of improvements to HVAC systems. These are typically centralised systems and therefore upgrades must happen holistically, at a building level.

We believe that there is room for change in the HVAC market, including the ongoing global shift away from central systems and towards local heating and cooling of rooms, alongside development in smart thermostats and room monitoring. This change is particularly relevant in the US, albeit it is also important in the emerging markets.



“You might have one system that’s more expensive, but as the run rate is significantly lower you could save 5-10p per foot on the service charge. This can be quite significant over a 5-10 year period.”

Head of Facilities Management, Global Real Estate Consultancy

# FACILITIES MANAGEMENT: IMPORTANT BUT LOW GROWTH

Facilities management (FM) is a mature market with traditionally thin margins. Our research has shown that while FM is an important area of focus, it is not strategically valuable and therefore not an area for significant future investment.

Traditionally, differentiation has been hard won through operational excellence alone and is difficult to evidence at contract renewal, with the lowest cost provider tending to win. Yet, while the sector remains challenging, the development and integration of smart technology may be changing this.

By moving from time-based to condition-based maintenance regimes, providers are realising that remote monitoring of business-critical systems can add significant value. Predictive technology allows FM to become less focused on break / fix and more focused on zero down time. Despite being more expensive, some of the best providers are able to use this technology to win tenders. This is a new and exciting development for the sector.

## **Sector outlook**

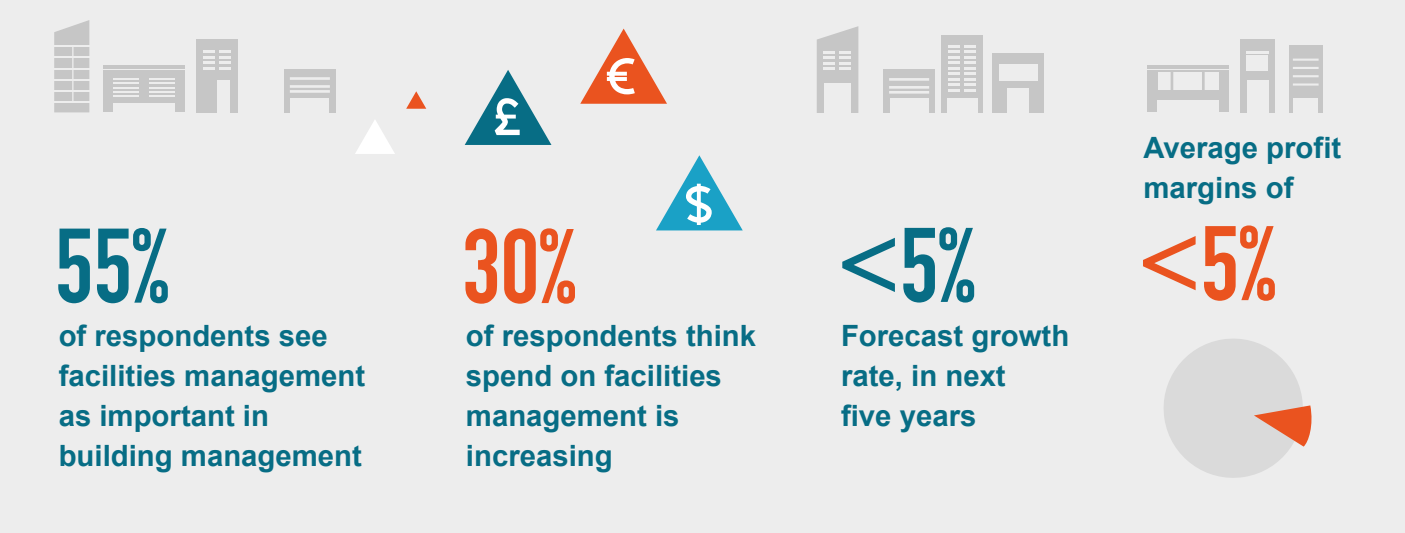
Historical failures and perennial low margins demonstrate the need for change in the FM contracting model and highlight the importance of adding value in a sector that is viewed as a commodity.

Margins remain tight, but winning providers will integrate monitoring and analytics into their solutions in order to save clients money without reducing contract pricing. This approach helps to embed operators within the asset and estate owner. As they effectively own the data, operators can offer bespoke FM insight, creating barriers to contract switching and simply transferring staff between providers.

These businesses are likely to improve margins, with good visibility of earnings and clear growth opportunities.

“There is a whole host of technology out there that is open source and enables you to share data with your clients in real time. You could find that the facilities manager brings in the technology themselves to be more efficient.”

Senior Vice President, Global Real Estate Company



# SMART CONTROLS: A GAME-CHANGER

Smart controls and sensors are a wireless way to create efficiencies in CRE, bringing costs down, improving tenant satisfaction and ensuring strong energy performance.

Our research shows that investment in this area is finally moving up the agenda but remains nascent. There are clear areas of opportunity across controls, occupancy monitoring and, eventually, data-led services.

However, we believe that the early winners will have propositions that offer cost-saving and conventional ROI. This is best achieved by improving HVAC and lighting rather than workspace utilisation and building user engagement. These will come later, after the economic case is proven.

The market is heavily driven by ROI and the strongest demonstrable case for smart controls is within prime real estate. Properties in larger cities with higher rents can justify refurbishments and upgrades, so it is these buildings which are seeing the early investment. Older buildings and CRE outside of larger cities will likely take longer to adopt this technology.

## **Sector outlook**

In order to produce smart controls with optimum security, we expect growth in both the hardware and software markets. As the technology becomes cheaper, more accurate and more efficient, ROI cases will be improved and general barriers to spending will decrease.

These developments do not just apply to new buildings either, by retrofitting them with new technologies older buildings can reap the benefits of smart technology. The enterprise providers, such as Honeywell or Philips, tend not to compete in this area and instead concentrate on large-scale contractor and architect-led projects. This opens the space to smaller players who can provide systems which are wireless and easy to fit.

While some uncertainty still surrounds the market, as positive use cases come to the fore, we believe this vertical will see high growth and strong margins, with clear benefits for the commercial sector.





58%



of respondents see smart controls and sensors as important in building management



92%



of respondents think spend on smart controls and sensors is increasing



10%+

Forecast growth rate, in next five years

20%+

Average profit margins



“Over a period of 18 months, my client worked out with smart technology that instead of occupying a building of 100,000 sq ft, they could occupy 70,000 sq ft.”

Director, Commercial Real Estate firm

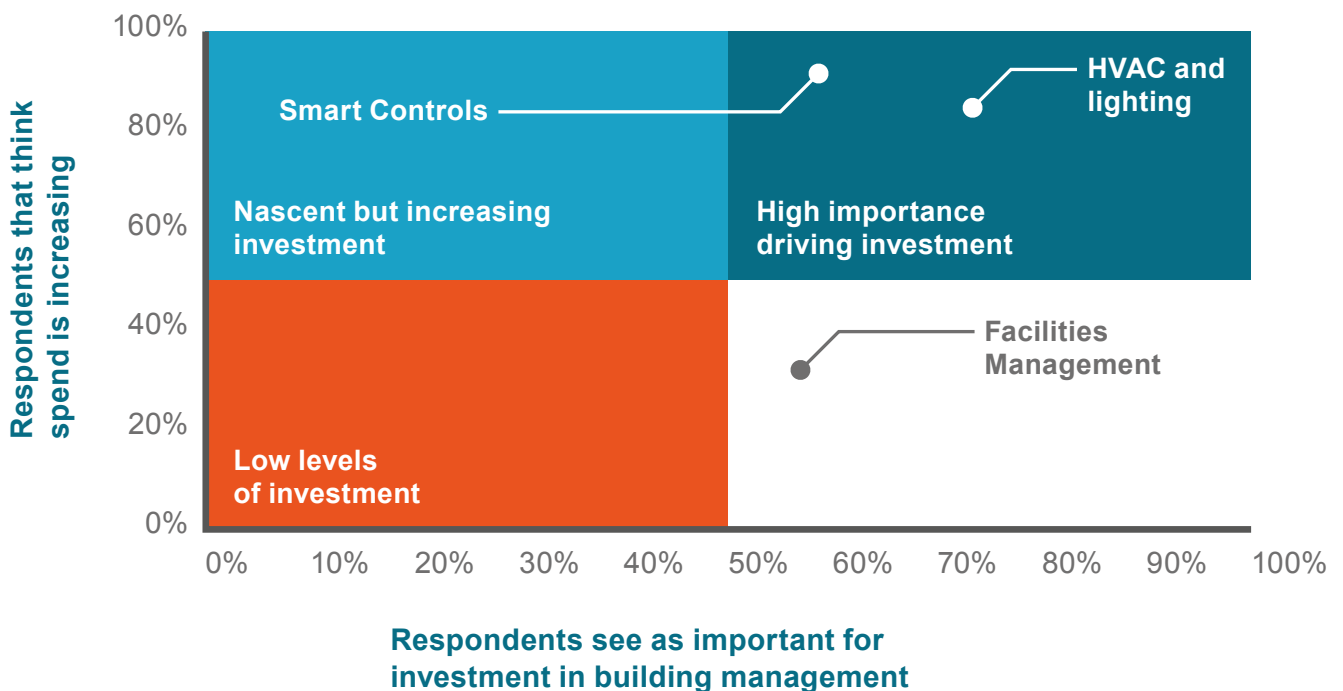
# CONCLUSION

Our conversations with building owners and operators show that the long talked about concept of ‘smart buildings’ is finally seeing investment. We believe that the sector is about to see a sustained period of growth with new tech-enabled, less cyclical business models coming to the fore.

While the shift has been slower than forecasted, necessary developments in energy efficiency and a value-add approach to FM has increased the industry’s focus.

We believe that developments in wireless sensors and controls solve the current tension between reducing facilities management budgets and a need to use buildings more efficiently.

This is creating opportunities in mature sectors and new technology markets, with room for both enterprise players and local system solutions, if they interoperate with the existing building management infrastructure.



# GET IN TOUCH

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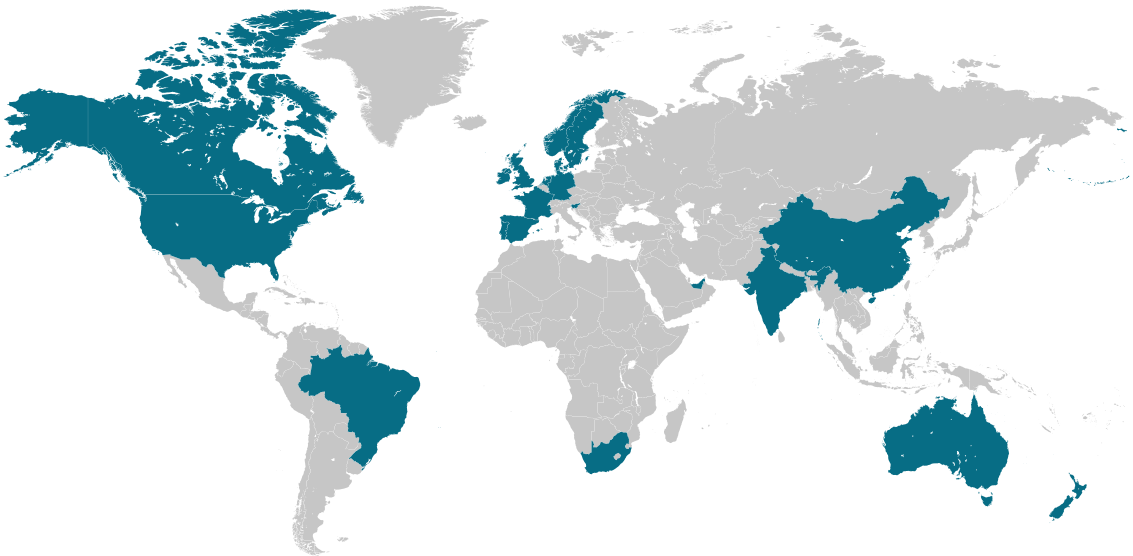


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