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Navigating the future: Strategic options for sustainable and efficient building management

As building owners face increasing pressure to reduce carbon emissions, ESG (environmental, social, and governance) criteria are becoming central to building performance management. Yet, many real estate owners and users are hesitant to take the appropriate course of action because they do not have access to live and correct data of their asset portfolio. Could artificial intelligence (AI), the Internet of Things (IoT), and digital twin technologies be the missing link to align ESG goals and operational efficiency?

5 insights you should know

Regulation is moving. Regulations surrounding sustainability and corporate governance are evolving rapidly, requiring organizations to proactively adapt their operational strategies and compliance frameworks. Staying ahead of these specific regulatory shifts is essential to maintaining compliance and aligning with industry standards.

Static reporting is not enough. Traditional static ESG reporting methods, such as annual sustainability reports, periodic ESG questionnaires, and static data spreadsheets, are inadequate to meet evolving stakeholder expectations. Investors and stakeholders demand real-time, transparent reporting of ESG metrics.

Carbon neutrality is a journey. Achieving carbon neutrality may seem simple. But getting to net-zero is a complex, ongoing process that requires a long-term strategic commitment that includes leveraging a wide range of skills such as energy efficiency improvement, waste management, or carbon accounting (for example) to create a roadmap/vision for the portfolio.

The cost of non-compliance is added to the cost of missed savings. Not only does non-compliance result in significant penalties, but it also increases operational inefficiencies, which can lead to increased costs. These include regulatory fines, financial liabilities, and reputational damage that can undermine stakeholder confidence and hurt market value. The resources required to remediate non-compliance can divert focus from core business activities, reducing profitability and long-term sustainability.

The future of building is cognitive. Imagine a building managed by autonomous systems powered by AI and IoT, centered around a digital twin technology that continuously monitors and analyzes energy usage and performance, enabling proactive improvement and maintenance for efficiency and sustainability.

5 actions to consider

1 Understand the impact of regulation on your assets and operations. Develop a dynamic compliance framework that regularly monitors and assesses regulatory changes so you stay ahead of evolving requirements. Engage with stakeholders to align your operations with the evolving standards.

2 Deploy advanced data analytics and real-time monitoring tools to help continuously track asset/building performance. Access to continuous updates on your ESG performance can allow for agile responses to issues or opportunities that arise. This enables timely, data-driven decision-making, and enhances transparency for stakeholders.

3 Engage with internal and external subject matter specialists to leverage their knowledge to **develop and implement a phased approach toward carbon neutrality.** This includes setting incremental goals, investing in green technologies, and regularly reviewing and adjusting your strategies to maintain progress toward sustainability.

4 Aim to not only be compliant but also to improve your building utility consumptions and maintenance operations. Conduct regular broad energy audits, invest in energy-efficient systems, and adopt leading practices in facility management to reduce costs and improve compliance.

5 Develop a digital twin of your building to simulate and improve performance, predict maintenance circumstances, and enhance user comfort and operational efficiency in real time. Position yourself for the future by setting up a digital twin operation system as a base for future cognitive building use cases.

Connect with us

NATHAN FLORIO
Principal | Deloitte Advisory
Real Estate
Deloitte Transactions and Business Analytics LLP
nflorio@deloitte.com

ADAM REGELBRUGGE
Principal | Deloitte Advisory
Real Estate Sector Leader
Deloitte & Touche LLP
aregelbrugge@deloitte.com

SHARON CHEN
Head of North America
Akila
sharon.chen@akila3d.com

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