

"We predict a big sea change in attitudes towards Sustainability going forward where the "scorecard box-ticking" of the past is no longer good enough and where industry has an opportunity to lead from the front and embraces new technology and processes. Significant international climate change reports and our own Climate Action Plan in Ireland point to the urgency of what's required." That's according to Brian Coogan our Director, Digital Services (Smart Buildings) and Müge Karasahin, our Digital Sustainability Lead.

**So, what's needed to become a Committed Corporate Sustainability Citizen leading from the front?**

Together they have identified three defining points that are worth noting and acting upon for building sustainability and wellness.

## 1 Certification is only a start in sustainability. For ongoing – and verified – sustainability, smart buildings now use digital data.

Data is the most powerful tool to understand performance, drive change and make better decisions (just think of the role it's playing in the global fight against Covid). At Ethos, we know that reaching the target net-zero global economy with regards to construction and real estate starts with a deep understanding of how we use our buildings. And the best way to do that is through data collection and analytics.

User, workplace, and building data are what's needed. The resulting insights and knowledge gained then gives us the opportunity to apply intelligent automations to achieve the sustainable, operational and user goals that every organisation should seek to attain.

It's an obvious point but, by choosing to digitise building operations and experiences you are creating an intelligent building – in other words, a sustainable, healthy and low-carbon space that works for everyone and meet sustainability targets. Digitisation helps organisations to manage resources, deal with social and technology change while at the same time adapting to ever changing human needs.

It's time to acknowledge that one-time certification systems alone will not get us to where we want to be. Arguably, they're too static. To achieve ongoing and verifiable sustainability, buildings need to apply the latest technologies and integrations to provide an evolving, "always-on" system that continually monitors and adapts how a building performs.

## 2 Don't get left behind

Sustainability is no longer an "Optional Extra", something that's nice to do if you can fit it in. The same applies to digitalisation. Quite simply, through digital data you can choose to achieve a proven and reactive sustainable & healthy building.

Our Digital Sustainability approach mainly focuses on building design confirmation through operations monitoring and then automate adaptability. It proposes to gather data on ambient and behavioural patterns of a building, push the data to the cloud and to the IoT platform, and enable best possible decision-making with regards to building's environmental quality for its occupants, also regards to space usage, energy, fuel, water, and other resources – enabling adaptation to create resilience.

First generation green certification systems have been incrementally changing the course of the building industry and the market for the better. They can be a valuable way to make sure buildings start off on the right foot – but what of their continuity?

We also recognise that first generation green certification systems (one-time certification, non-performance based) such as LEED and BREEAM are not reliant on buildings to prove their performances via actual operational data for certification achievement. As a result, inconsistencies between the expected energy consumption, calculated via an energy model, and the actual energy performance when the building is in operation may exist.

**So, what's the way forward?** We believe that it is time to break out from the building certification system's "easiest and cheapest points" approach on scorecards for sustainability and accelerate the digitisation of buildings to deliver on the commitment to corporate sustainability target – net zero global economy by 2050.

*"It is time to break out from the building certification system's "easiest and cheapest points" approach for sustainability and to accelerate the digitisation of buildings for efficiency."*



### 3 The compelling reasons for changing to digitisation

Outdoor and indoor environments are not static – they're dynamic.

Internal and external changes will always occur, and buildings must react to - and predict - users' activities. Otherwise, there's a lot of wasted resources and human health and wellbeing.

The Covid-19 pandemic, for example, means we are experiencing a more hybrid working scenario – and programming a building 9-5 is becoming a thing of the past as we adapt to a more flexible future.

Using workplace technologies (e.g. smart booking systems and IoT sensors) can allow a building prepare a meeting room for the specific amount of people who will use the space. (i.e. adjusting the fresh air flow for the exact starting time and maintaining optimum air quality levels for the duration of the meeting.) Likewise, the same data set from the IoT sensors can alter the airflow based on the increase or decrease of people in the room. This real-time ability contributes to further energy savings while also not compromising the optimum environment for productivity.

Similarly, through occupant behavioural patterns of the building, digitisation allows you to see what areas are heavily used (high-touch surfaces) and to use this information to adjust a building's cleaning protocols for optimal efficiency.

External changes to a building include climate change which is bringing more weather ups and downs and extremes. With digitisation, a building will be alert to a heavy weather system coming in and may attenuate its tank beforehand to support the city system. Or elongate the night cooling period to drop the overall temperature to slightly below to reduce cooling loads the next day. And the best part is, they adapt without manual input.

At Ethos Engineering, we know collecting data through digitisation is the only way to achieve the ongoing, verifiable sustainability of buildings. We also know the time to unlock a building's potential and to drive change via technology for a better future is now.



So, if you've got a building or space and uncertain where to start, get in touch and we'll offer some pointers based on our own living lab. [Click here to find out more.](#)



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