Unlocking The Power of Data
For Buildings Decarbonization & Better People Experience

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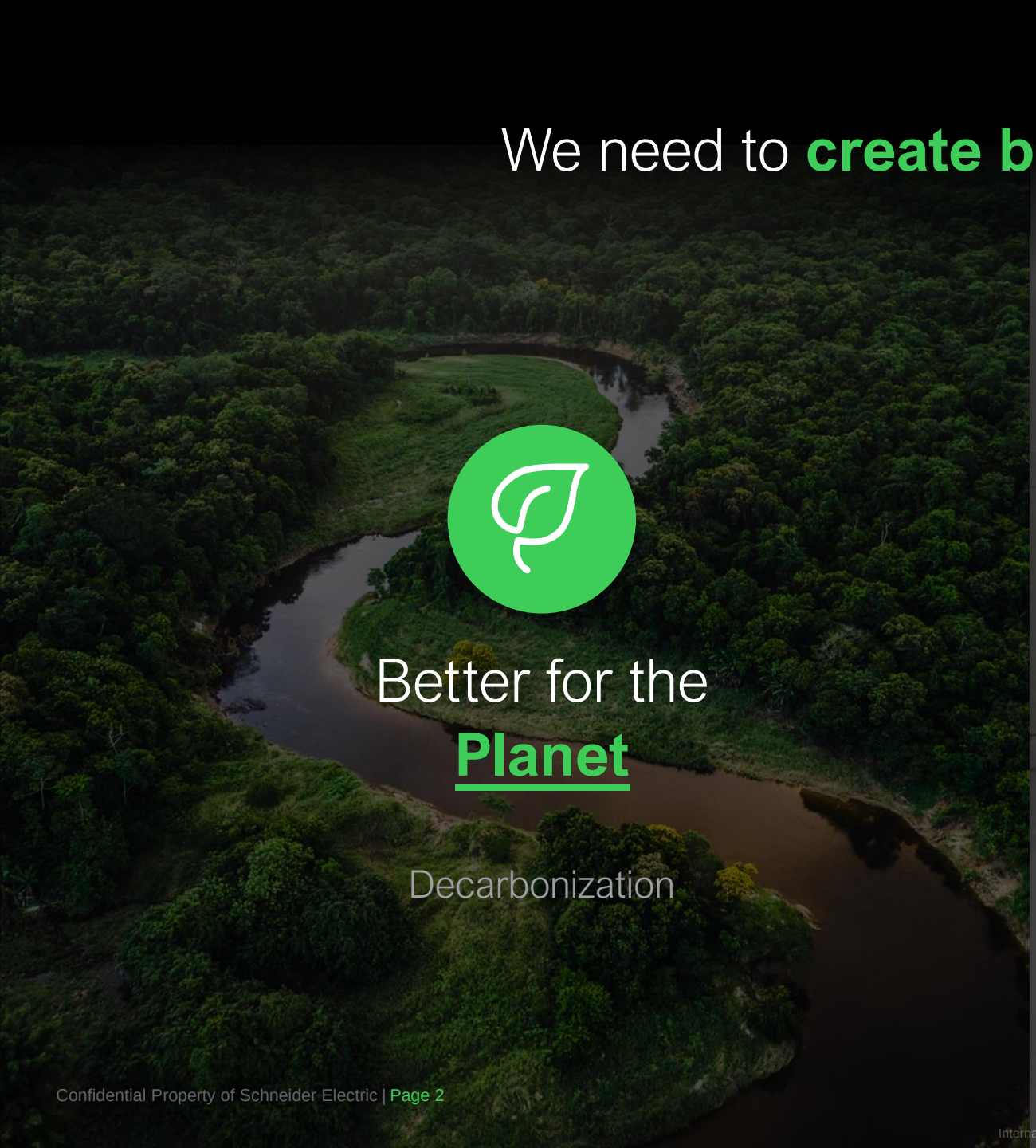
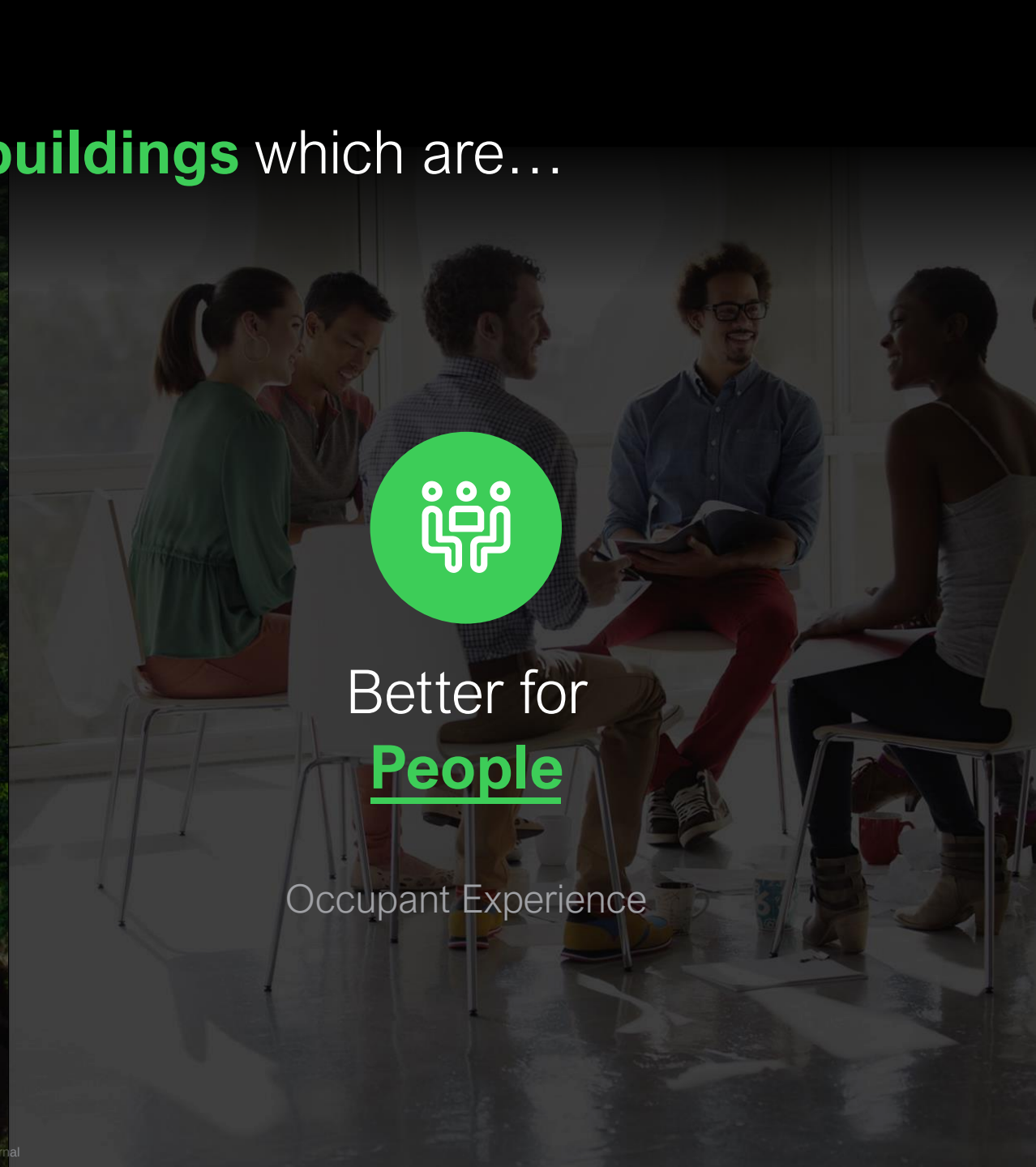
Life Is On | Schneider Electric

We need to **create buildings** which are…



Better for the **Planet**

Decarbonization



Better for **People**

Occupant Experience

The key is **data**


Data is critical for decision
making and action


Software makes data
actionable

Today's buildings are **evolving**…

Sustainability & Decarbonization

- Regulations, energy crisis
- Social interest in Net-Zero

Hybrid Working & Occupant Experience

- Occupancy & space utilization
- Tech for health, wellbeing and productivity

Digitization & New Technologies

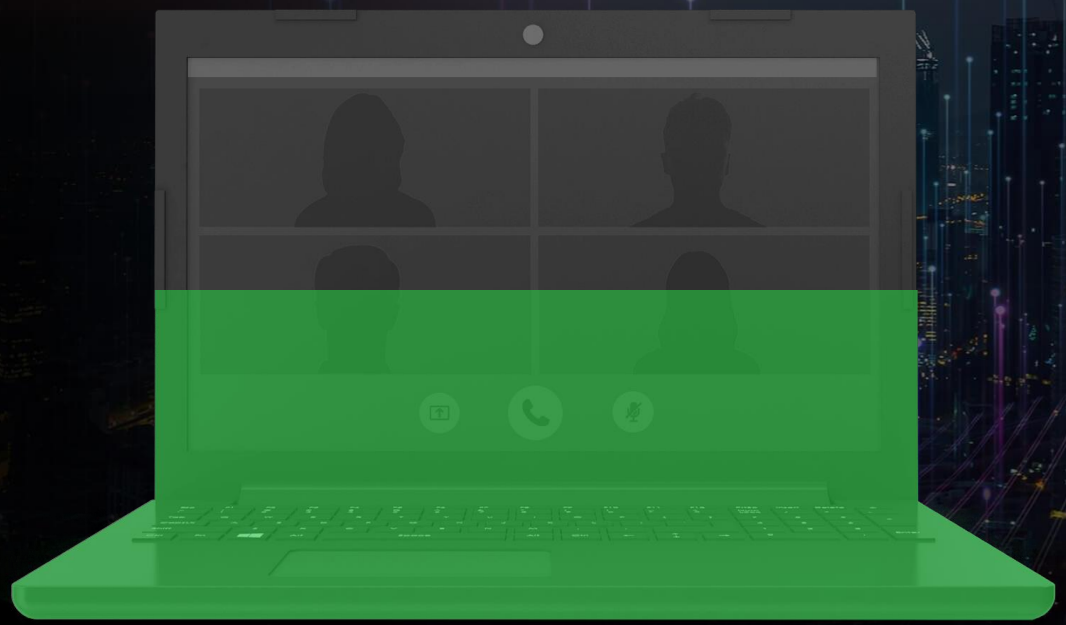
- Digital solutions for productivity
- AI, Machine learning and digital twins for analytics

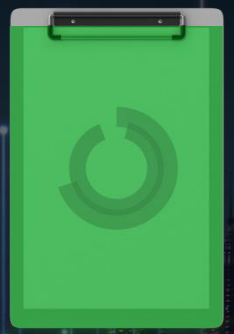
Technology Partnership & Investment

- Building leases with tech and data as a service

…but there are still **challenges** we face

61% of workers prefer a **hybrid schedule**[1]





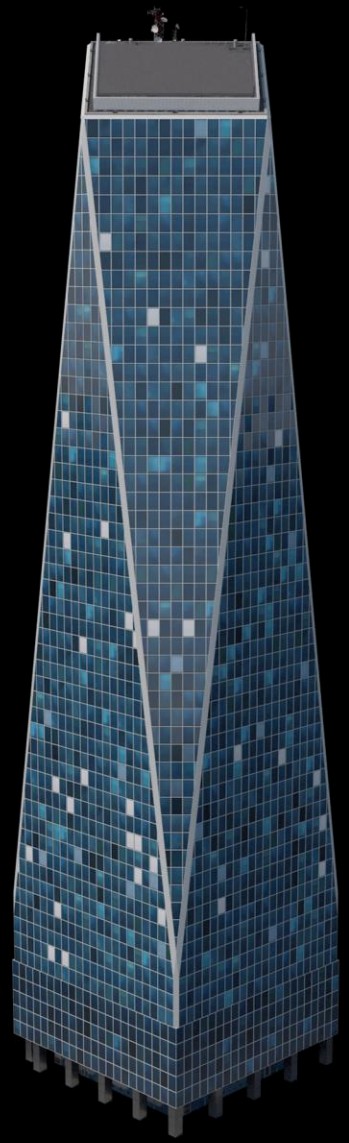
93% of enterprises **don't use** ESG data and analytics[3]

Only **13%** of enterprises are collecting data on an **ongoing or real time** basis[2]

21% of skilled facility professionals are **retiring** in the next **5 -10yrs**[4]

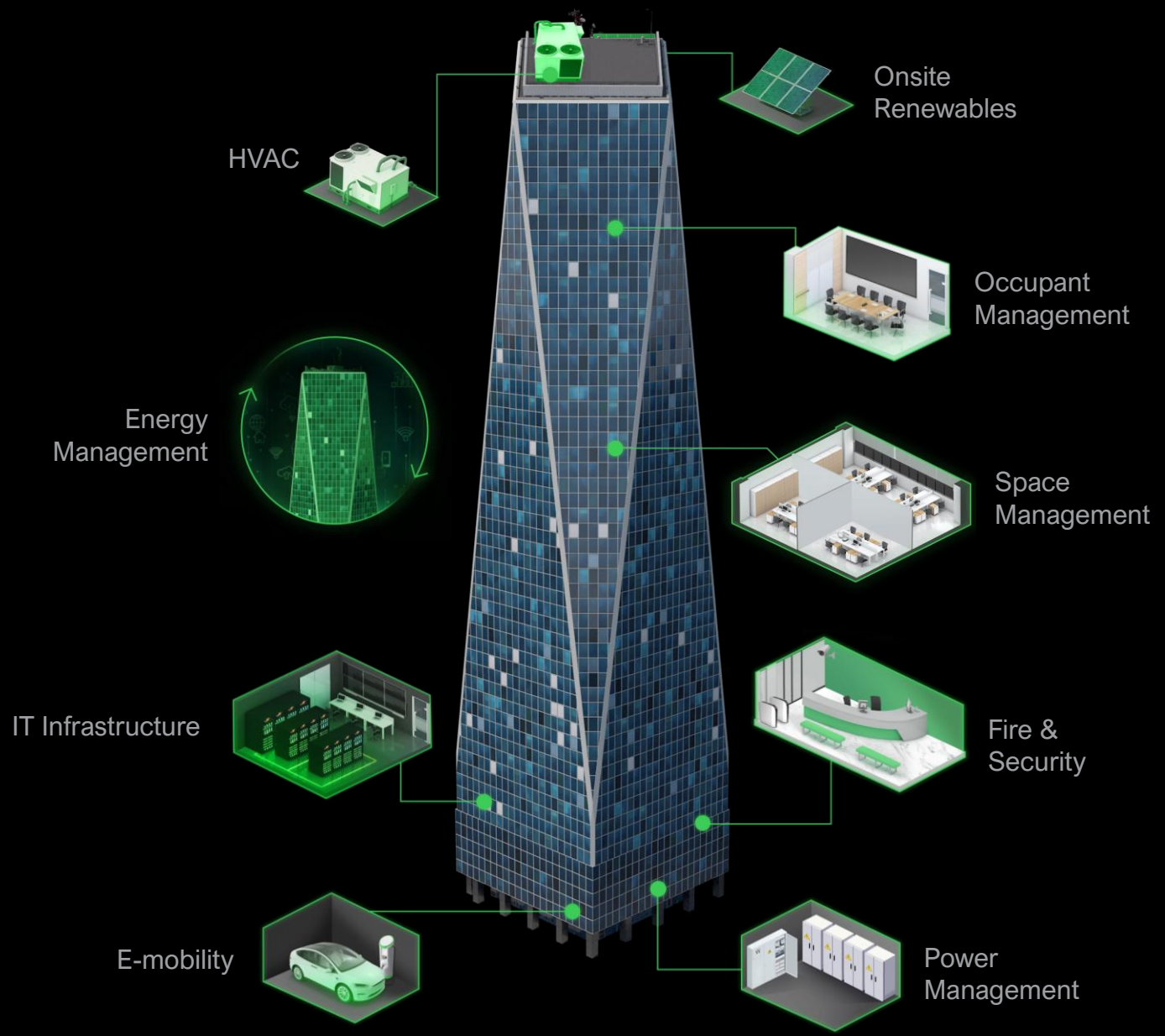
[1] Harvard Gazette, Is 'business as usual' gone for good?, March 2021
[2] JLL Future of Work Survey, Aug 2022
[3] Deloitte Insights, 2023 Commercial Real Estate Outlook, Sep 2022
[4] IFMA Global Salary and Compensation Report, 2021

You need a **building ecosystem** across your portfolio which can…



You need a **building ecosystem** which can…

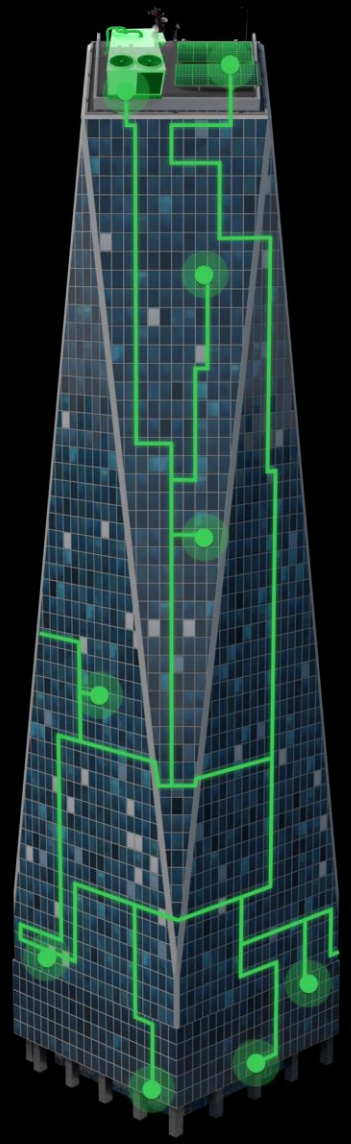
Capture data from all major building systems



You need a **building ecosystem** which can…

Capture data from all major building systems

in an **open and integrated** way…

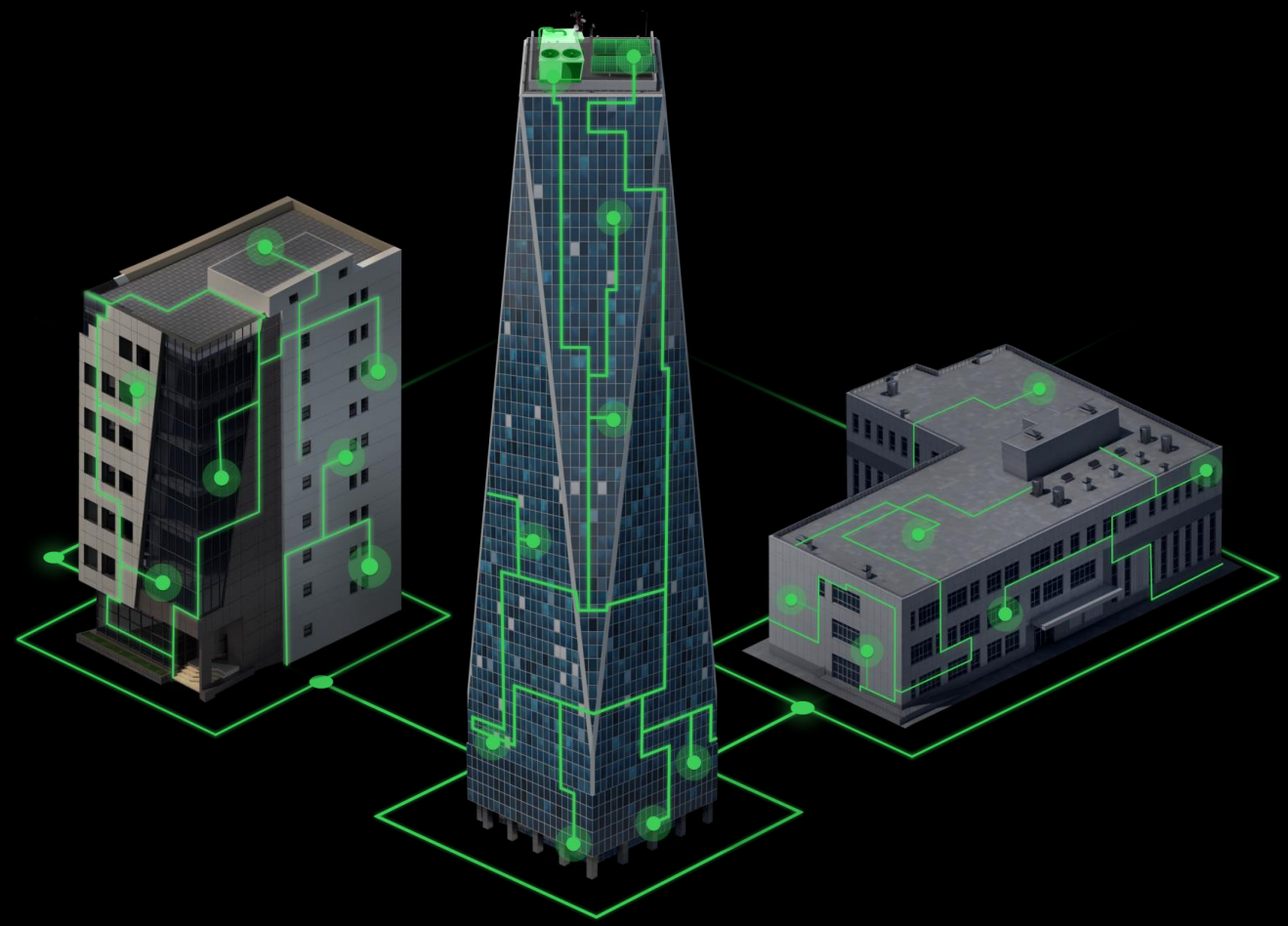


You need a **building ecosystem** which can…

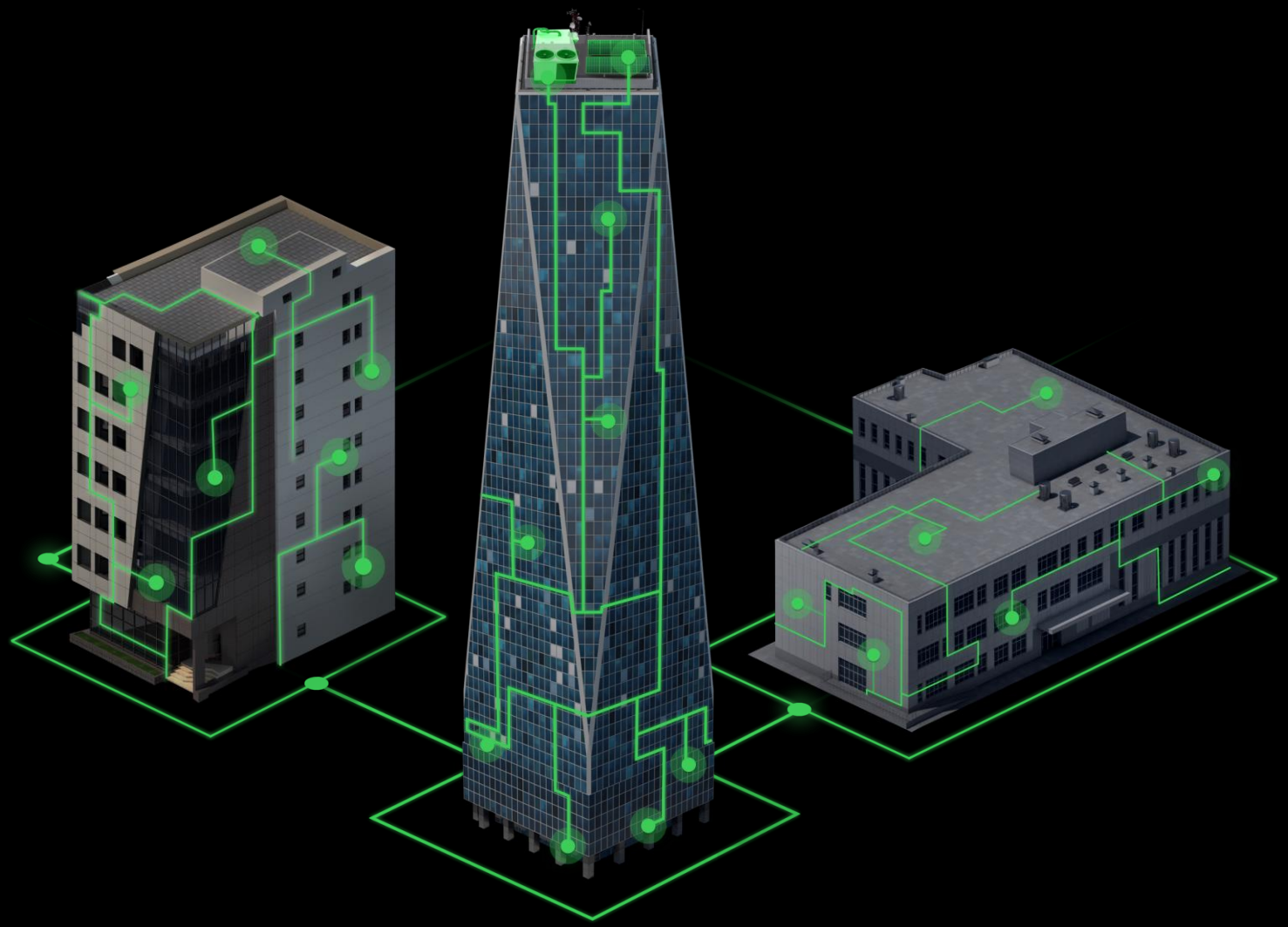
Capture data from all major building systems

in an **open and integrated** way…

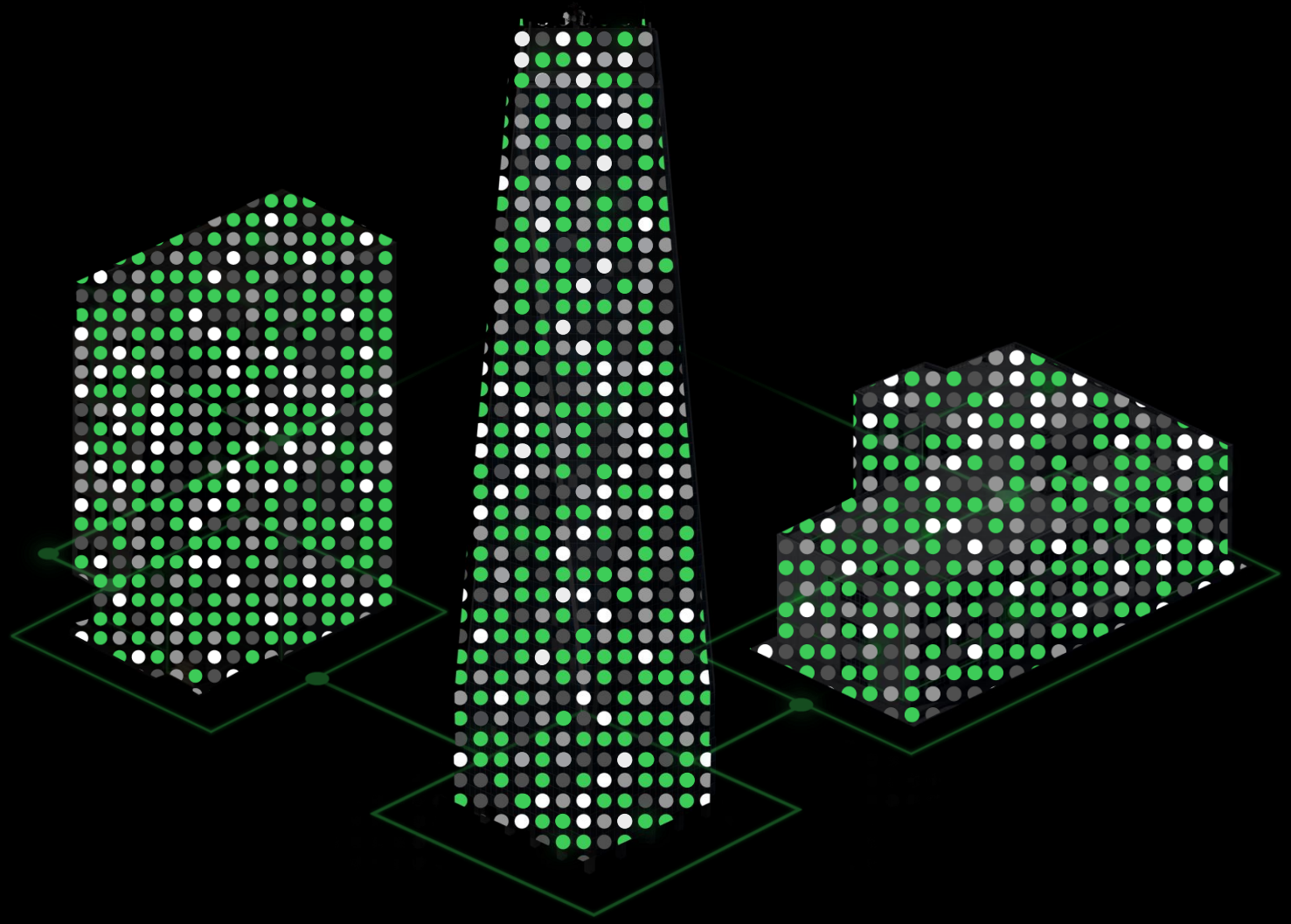
…across your **entire building portfolio.**



Now you have all this **data** across multiple buildings



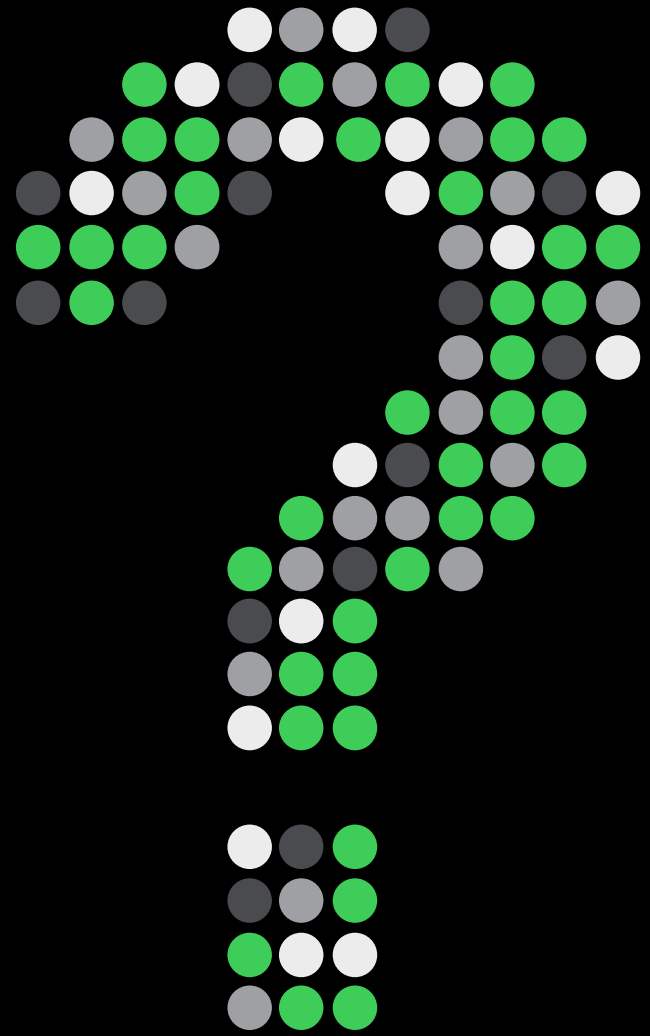
How do you make it **actionable?**



1

First you must **define intent**

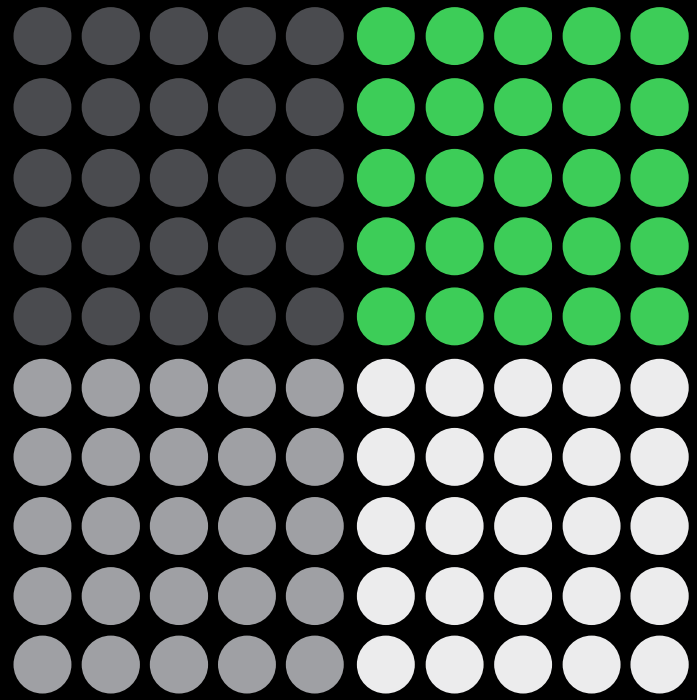
Strategically identify the actions needed to capture the right data to achieve your target **building outcomes.**



2

Then you can **capture and consolidate**

Digitize your systems so you can gain a **holistic view** of what you're working with in a common data environment.



3

Next you must **comprehend and analyze**

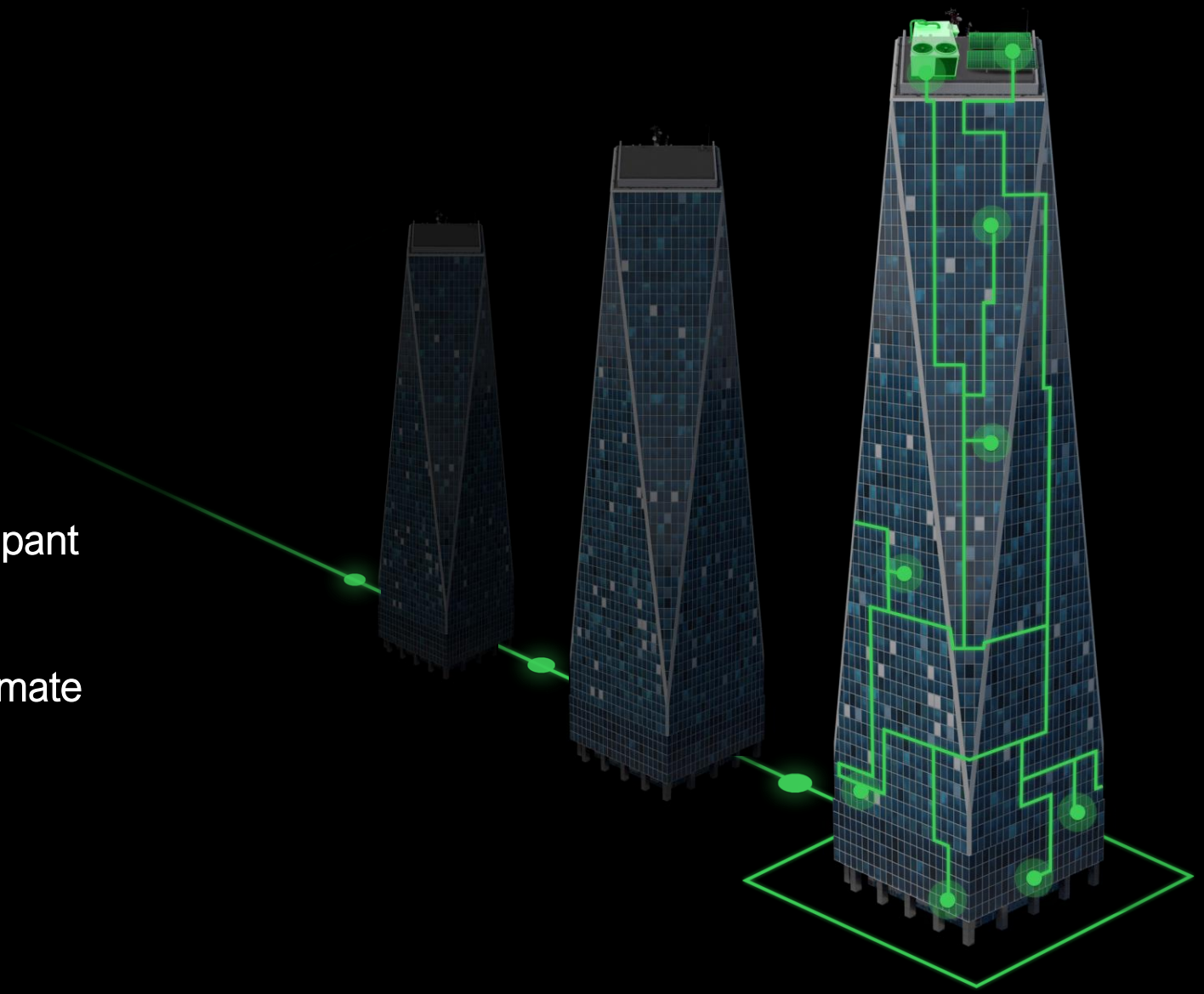
Use advanced digitized analytics, AI and machine learning to **truly understand** the **meaning of your data** in a wider context.

4

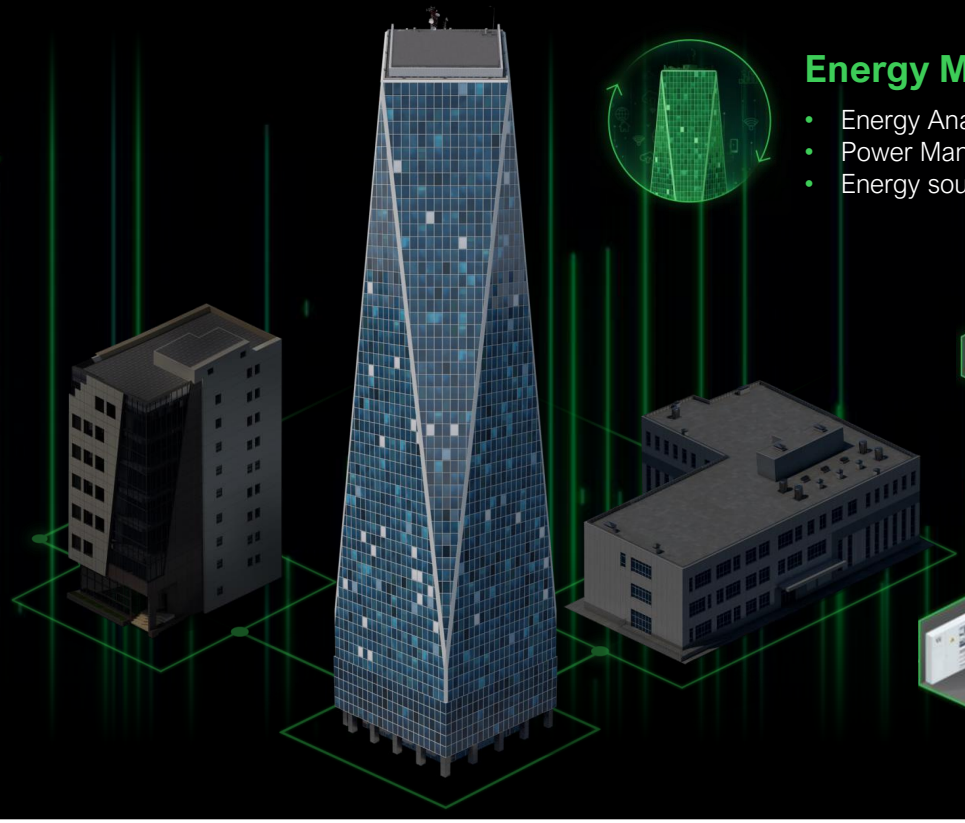
Now, take action

To decarbonize and **enhance occupant experience.**

Then go one step further and **automate various actions** based on insights



With applications including **AI-enabled** analytic tools, **automated responses**, and **clear dashboards** our **open ecosystem** gives enterprises the power to leverage **existing tools** or **our software solutions**.



Sustainability Management

- Sustainability and CO_2 reporting
- Compliance reporting

Energy Management

- Energy Analysis & Optimization
- Power Management
- Energy source & load management

Workplace Management

- Safety & security
- Space management
- Health & Wellbeing
- Comfort & experience

Real Estate Management

- Portfolio & Property management
- Development management
- Project Control

Operations & Asset Management

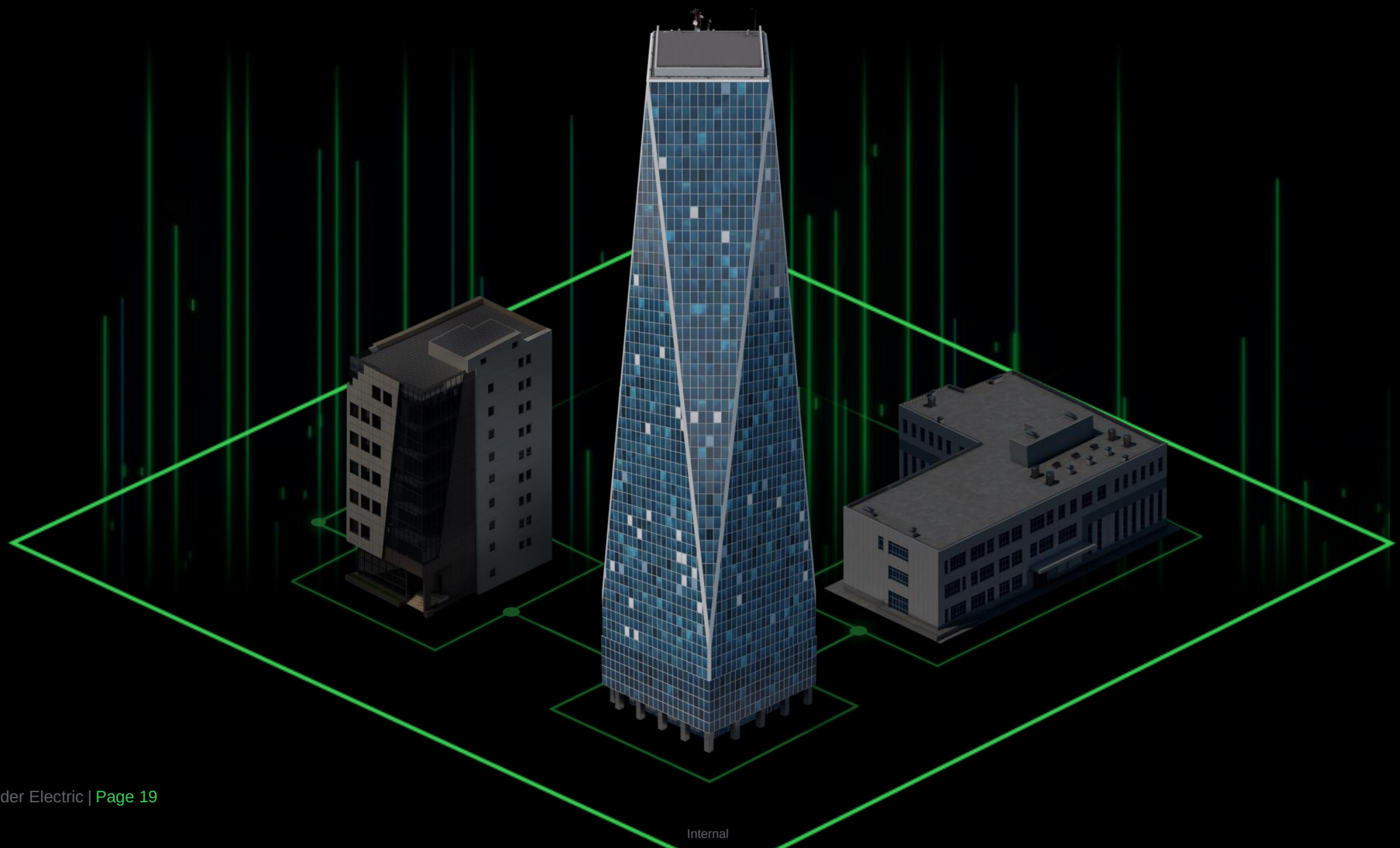
- Asset management & Condition based maintenance
- Power reliability
- Cybersecurity monitoring & maintenance

IoT Data Storage | Multi-Tenant | Digital Twin | **Independent Data Layer** | BrickSchema Ontology | Cyber-Secure | **3rd Party Applications**

EcoStruxure Connected Systems & IoT Devices

Multi Vendor Connected Systems & IoT Devices

And all of this is delivered by a seamless, **persona-based** user experience via **one building portal**, with visibility across your **entire portfolio**.



Results achieved

From a variety of building projects including our own

Energy Management

- **50%** reduction in energy consumption within 2 years

Sustainability Management

- **76%** Co2 emission reduction
- **LEED** and **BREAM** certifications

Real Estate Management

- Expected savings of **6-13%** (depending on type & location of building)

Workplace Management

- Up to **60%** office space reduction
- Workplace layout redesign based on actual usage
- **99%** comfort score average

Operations and Asset Performance

- **40%** reduction in avoidable cost related to faults

Stockholm School Properties Company (SISAB), Sweden

Strike an optimal balance between energy, indoor air quality, comfort and climate goals.

Solutions

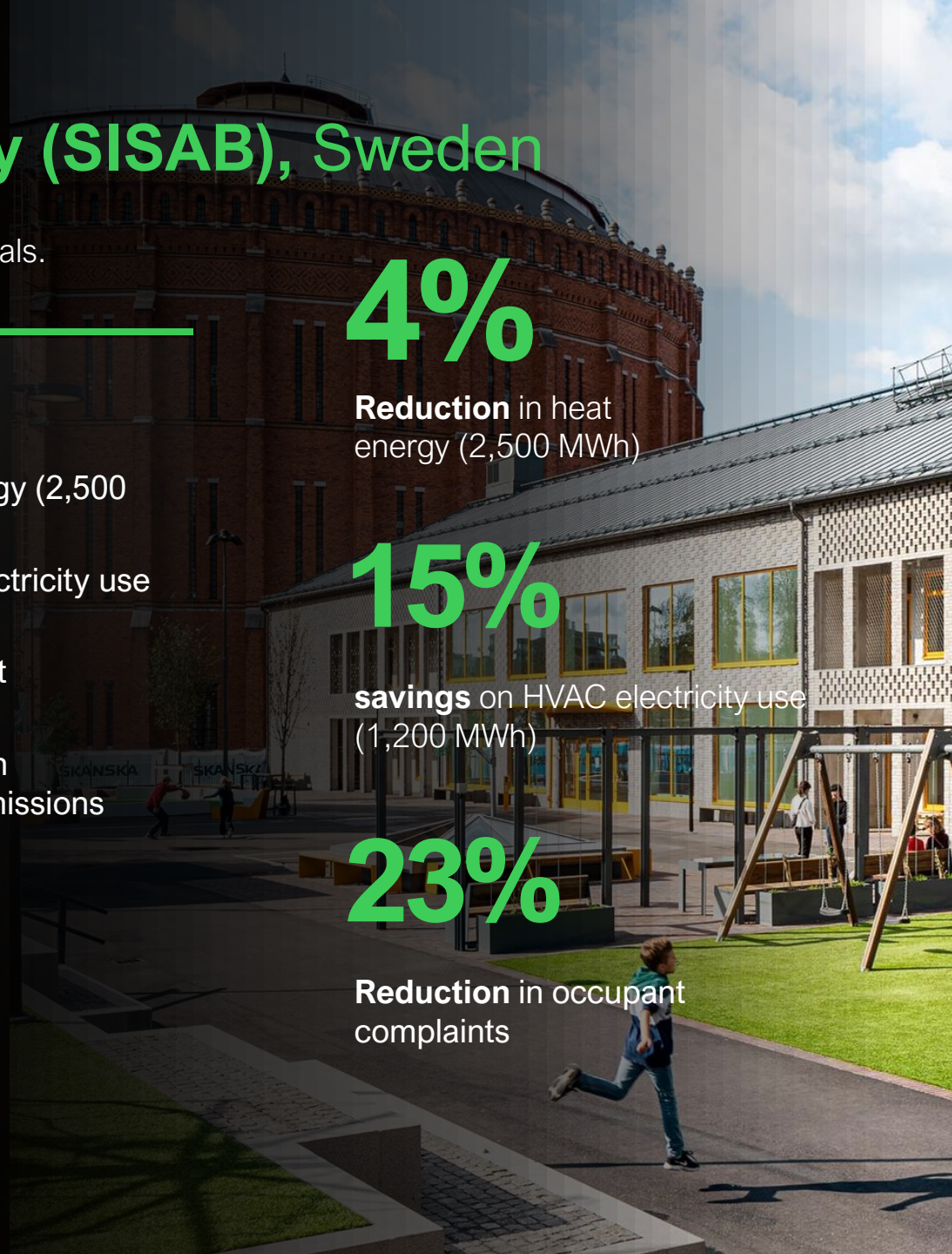
Data
Utilize thousands of CO2 & temperature sensors to create Digital Twins of each building to compare real time vs. ideal conditions

AI

Using AI & Digital Twins, the AI system provides SISAB's building management system with HVAC adjustments for energy and climate control to ensure ideal comfort at lowest energy use and cost

Life is on with…

- 4% reduction in heat energy (2,500 MWh)
- 15% savings on HVAC electricity use (1,200 MWh)
- 23% reduction in occupant complaints
- 205 metric ton reduction in greenhouse gas (GHG) emissions



4%

Reduction in heat energy (2,500 MWh)

15%

savings on HVAC electricity use (1,200 MWh)

23%

Reduction in occupant complaints

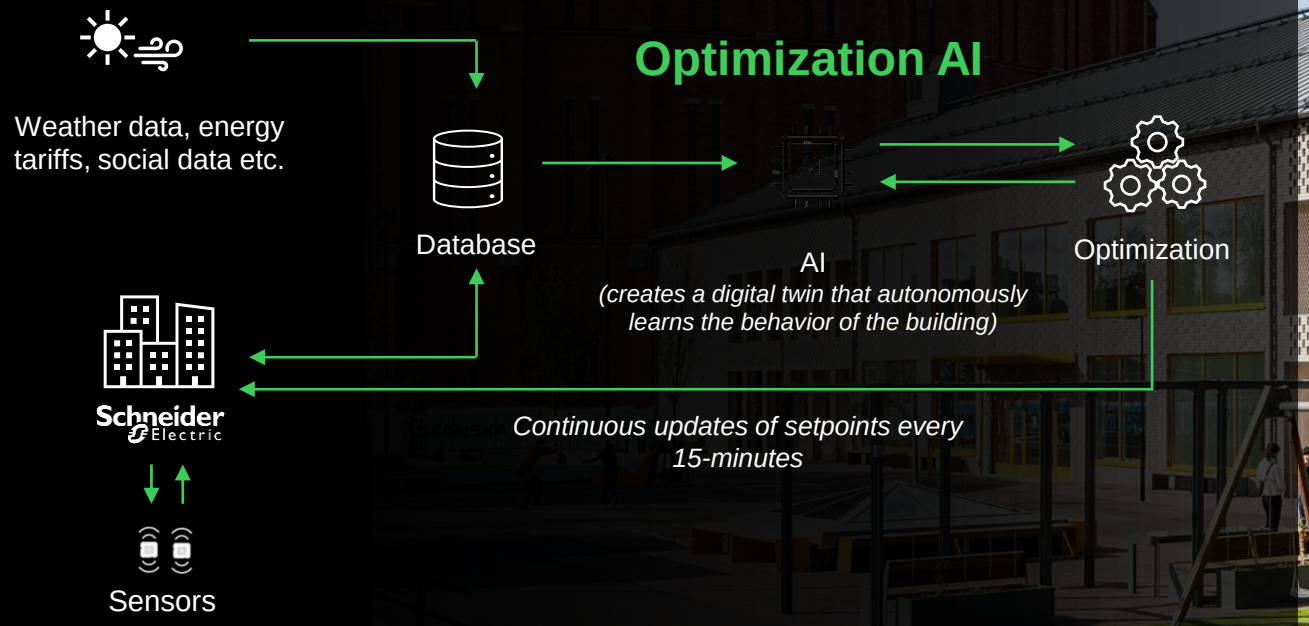
Stockholm School Properties Company (SISAB), Sweden

We implemented an AI engine to strike the balance between energy, indoor air quality, comfort and climate goals.

How it worked

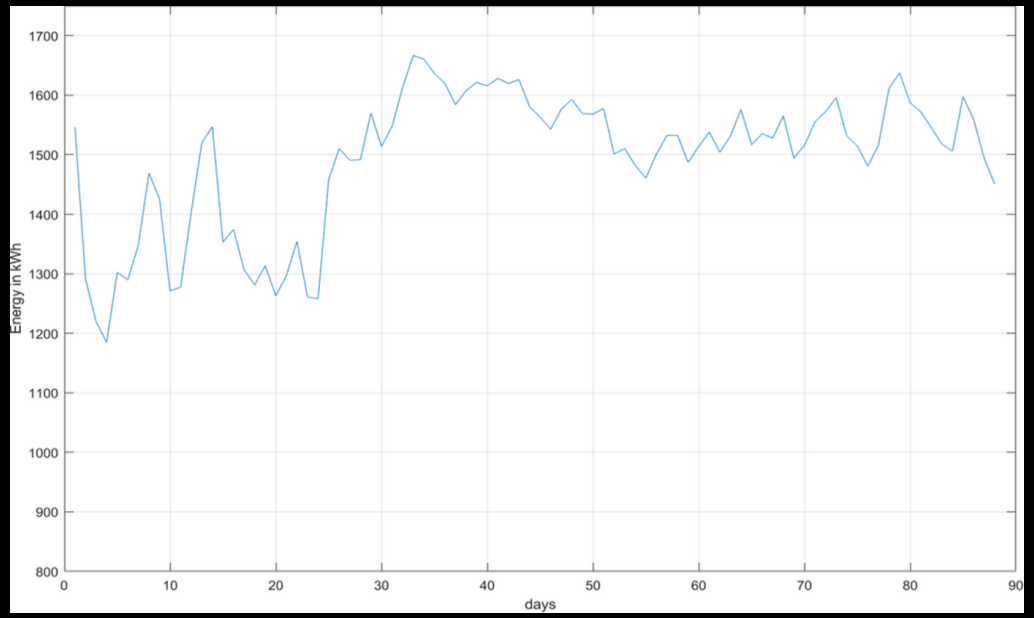
Building Advisor Optimization AI is a complete, scalable HVAC optimization system that optimizes heating, cooling, and ventilation. The system uses a combination of cutting-edge artificial intelligence technology and engineering insights from the real estate industry. By applying advanced algorithms, the system autonomously optimizes a building individually, for the set indoor climate at the lowest possible energy usage and cost.

The building is optimized by analyzing data from the BMS, sensors in the building for controlling temperature, CO2 levels, and humidity, as well as external data sources such as weather, energy tariffs, and social data. The solution works much like a human but includes more data when setting new temperature and airflow parameters every 15 minutes. By giving the BMS continuous new setpoints, Building Advisor Optimization AI creates an optimized steering strategy for the individual needs of each building.



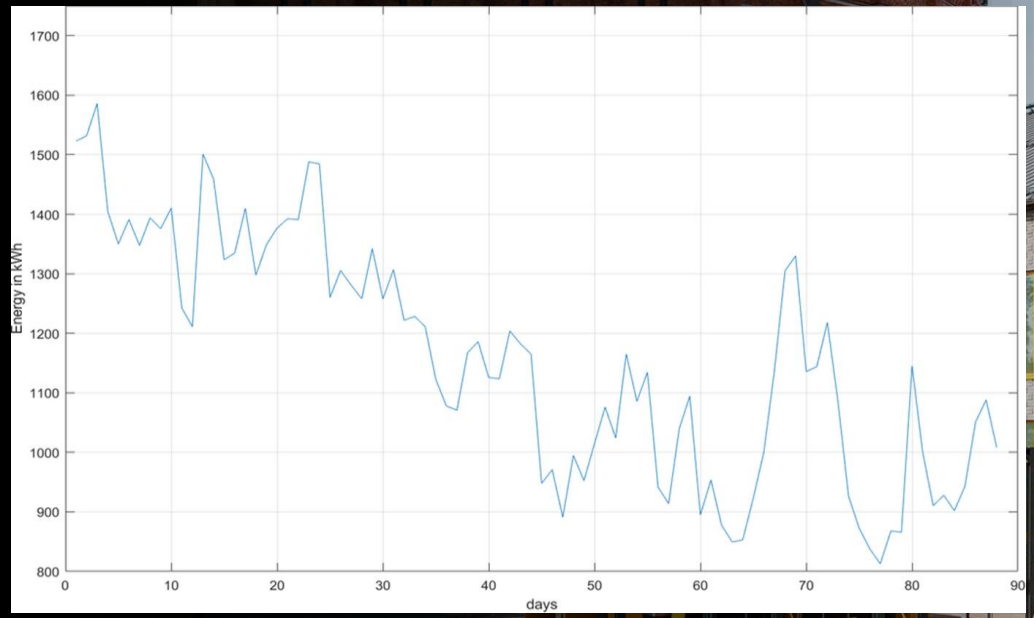
Stockholm School Properties Company (SISAB), Sweden

Energy Saving



Before

There is no real control nor optimization of energy usage. The indoor temperature fluctuates haphazardly without any planning implemented nor an informed solution.

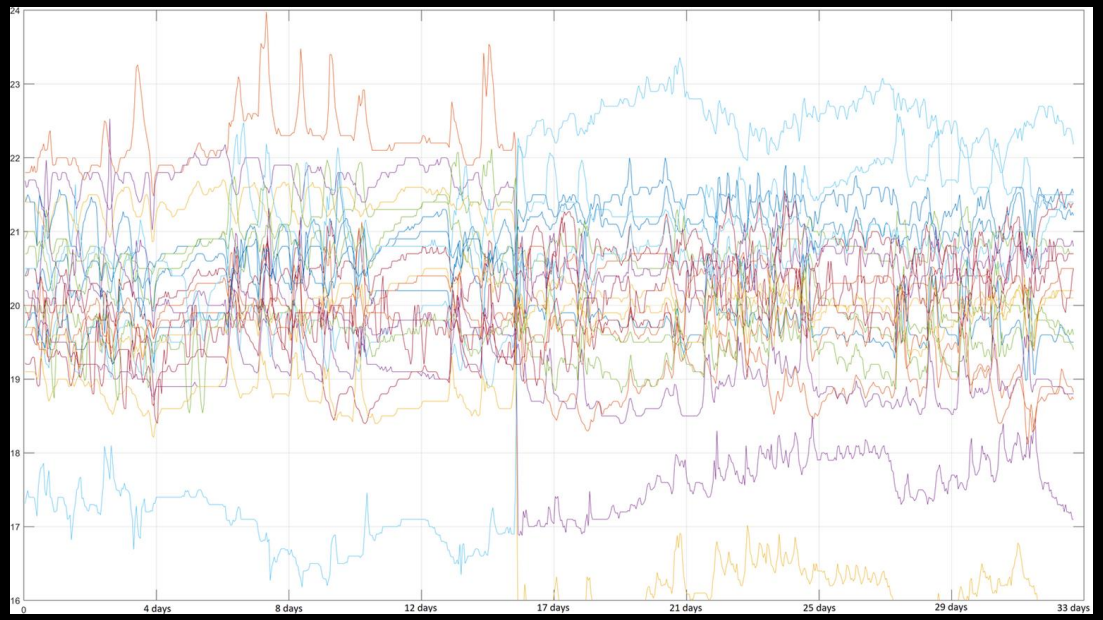


With Optimization AI

Our customized algorithms ensure the indoor temperature is kept within a predefined range while considering outdoor temperature, building configurations, energy tariffs, time, date, and other factors

Stockholm School Properties Company (SISAB), Sweden

Increased Comfort



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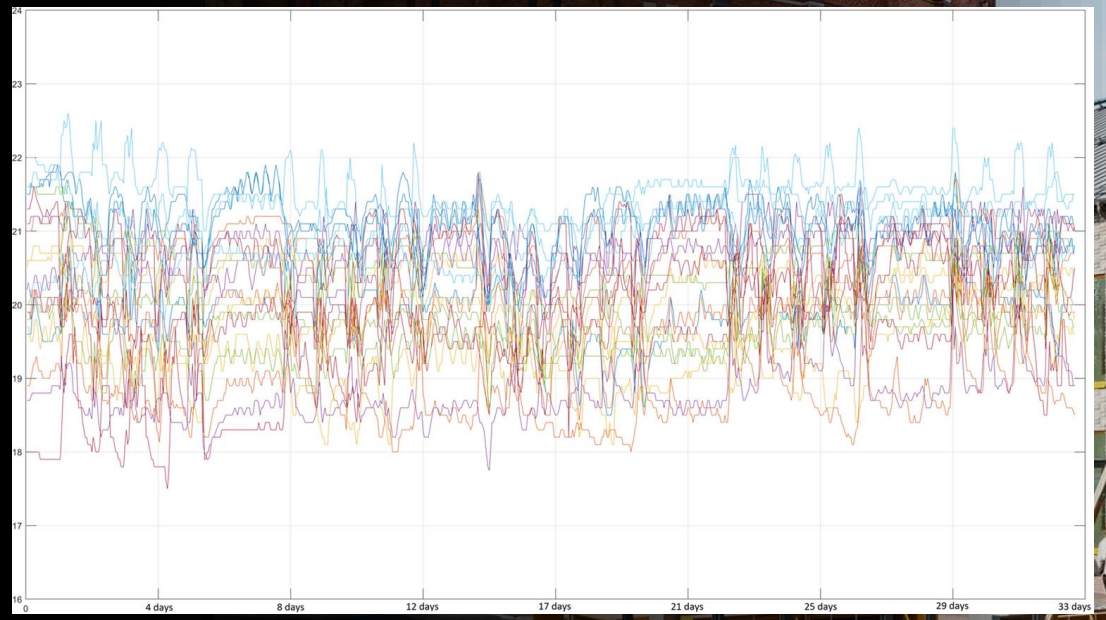

With Optimization AI

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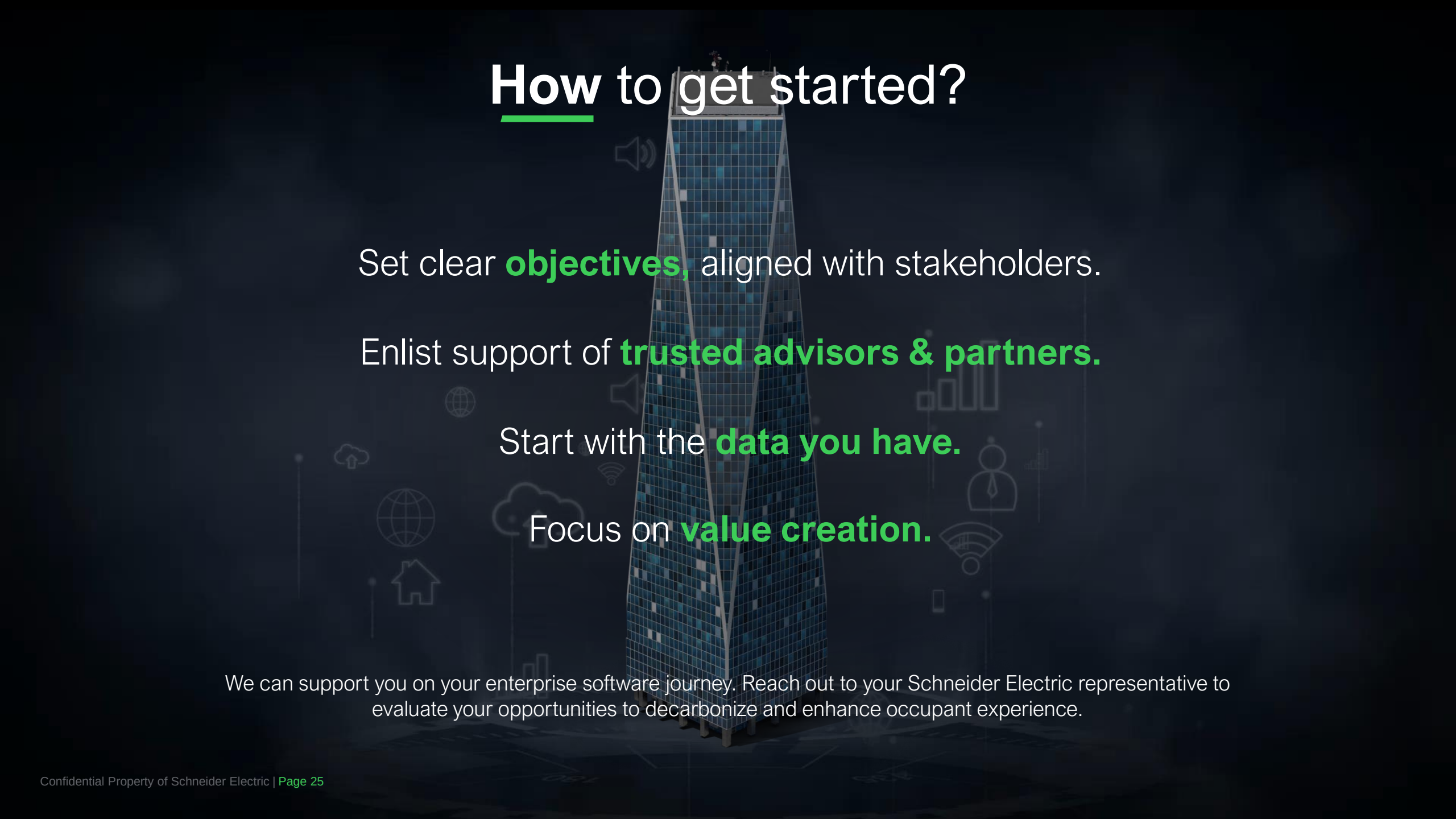
How to get started?



Set clear **objectives,** aligned with stakeholders.

Enlist support of **trusted advisors & partners.**

Start with the **data you have.**

Focus on **value creation.**

We can support you on your enterprise software journey. Reach out to your Schneider Electric representative to evaluate your opportunities to decarbonize and enhance occupant experience.