Keeping up with the Smart Building Evolution

Advances in technology and the explosion of connected devices and sensors are driving a new era in buildings and their management. Facility managers are under pressure to deal with an unprecedented number of systems and the ensuing complexity. How did we get from wooden walkups to steel towers? From the first power grid to green power? Darkness to smart lighting? Typewriters to desktops to billions of connected things? Here’s a brief look at the smart building evolution and the growth of what now needs to be managed.

Past

Late 1800s
- 1879: First power grid
- 1885: First steel skyscraper
- 1913: First office space designed by Frederick Taylor

1904
- First office space with electricity
- 1913: President Roosevelt presides over the ceremonies as the first steel skyscraper opens on the opening of the Woolworth Building

1932
- The Empire State Building opens, the Chrysler Building and Rockefeller Center are still using steam as an energy source

Late 1900s
- 1982: IBM introduces first widespread commercial PC
- 1985: Microsoft Windows is released

Present

Energy
- 40% of total U.S. energy consumption is consumed in buildings
- HVAC + lighting = 70% of utility bill for most commercial facilities

Space
- 30% of commercial space is wasted
- 77% of the time private offices are unoccupied, while 60% of the time workstations are unoccupied

Lighting
- 45% commercial lighting cost reduction through occupancy-sensor fixtures and digital controls
- A 12W LED will now last for 25,000 hours

Structures
- Burj Khalifa (Dubai): Tallest building in the world; 2,716.5 feet high, 160 stories, longest single running elevator; 55,000 tons of steel rebar

Future

By 2020
- Smart industry 4.0
- Mobile data center
- Internet of things

By 2023
- Energy efficiency
- Energy efficiency in public buildings will save $18B

By 2025
- 5G and building
- Global building sector will need 20% less energy

By 2026
- Buildings
- 60% of building failures will be due to poor performance

By 2030
- Smart connectivity
- 5G, IoT and AI will enable more connected buildings

Commercial buildings have come far, fast, and are still rapidly evolving. Keeping up with the evolution of smart buildings requires a solution that can handle the complexity of joining multiple systems and one that is agile enough to scale as more things become connected. With innovation at every level—connected products, edge control, apps, analytics, and services—EcoStruxure™ Building from Schneider Electric makes buildings smarter, safer, more reliable, efficient, connected, comfortable, and sustainable for leading organizations worldwide.

Find out more here.