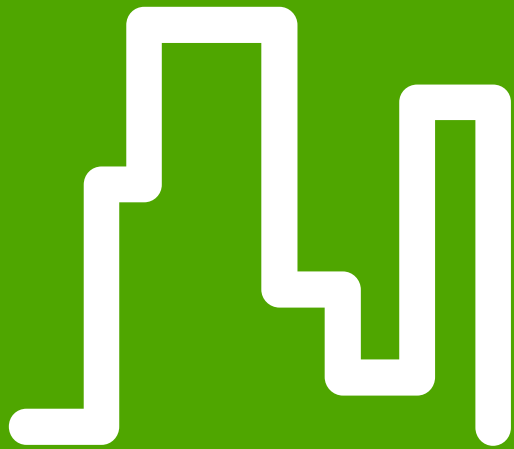


Solutions for office buildings



Schneider
Electric

Office buildings are a mess !

They use way too much energy

They are very hard to monitor

They are not flexible

> They generate dissatisfaction

> They have a strong negative impact on the environment and lose value very quickly



It's time for change !

Mastering energy
consumption

Increasing flexibility

Enhancing occupants'
comfort



Take office
buildings
to the next level



Energy
consumption:

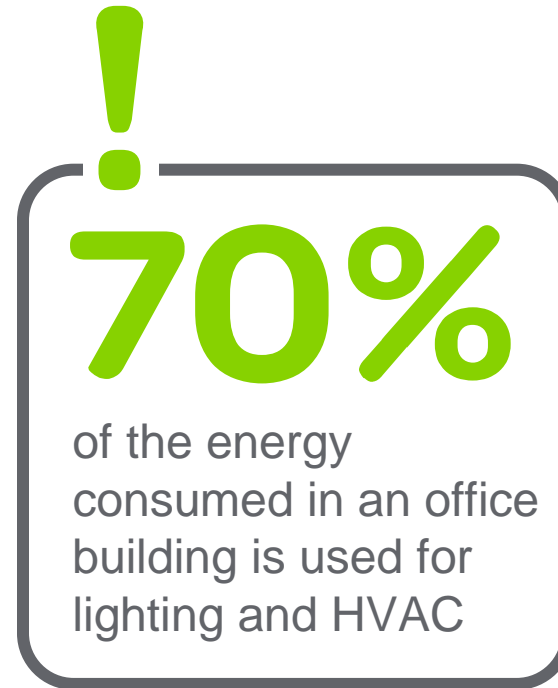
-30%

> Energy
efficiency

Consume less, comfortably

What it takes:

- Equipment & software for performance tracking
- Analysis skills
- Regular follow-up over time





Put office
building
to work-full time

> More flexibility

Faster built, easier changed

- **At concept stage**
 - think architecture of technical equipment
 - think modular, zone, split areas by type of use
- **Integrate all technical facilities**
 - the fewer systems, the better
 - based on open standard communication protocols
- **Use prefabricated equipment...**
 - easier to connect
 - reducing construction delivery times





Happy
occupants
work better

> Increased
occupant
productivity

More comfort better output

- Control of work environment:
 - temperature
 - air quality
 - lighting
- Permanent access to data
- Safety and security:
 - access
 - intrusion
 - fire
- Sufficient number of socket outlets



Everywhere in the building

1

Offices, open spaces, meeting rooms

- Power sockets ▲ ■
- VDI network sockets ▲ ■
- HVAC control ● ■
- Control of lighting and roller blinds ● ■
- Emergency lighting ■
- Fire safety ■
- Access control ■

2

Heating, ventilation, air conditioning

- Variable-speed drives on motors ●
- Control and monitoring ●

3

Solar panels

- UPS, protection, network coupling ●
- Source management ●

- Energy efficiency
- ▲ Flexibility
- Productivity and safety

4

Technical facilities on each floor

- Distribution board ▲ ■ ●
- Energy tracking per use and per tenant ● ▲
- Individual invoicing ● ▲
- Prefabricated electrical distribution equipment ▲
- VDI dispatching racks ▲ ■
- VDI Distribution ▲ ■
- Access control ■
- Secure power supply (UPS) ■

5

Services

- Energy efficiency audit ●
- Audit of equipment and systems installed ●
- Energy Efficiency ●
- Contract ●
- Energy consumption tracking ●

9

Electrical room

- Medium-voltage incoming station ■ ●
- Low voltage distribution board ■ ●
- Energy consumption tracking ●
- Reactive energy compensation ●
- Management of harmonics ●

8

Building MS

- Energy consumption tracking ●
- Supervision ●

7

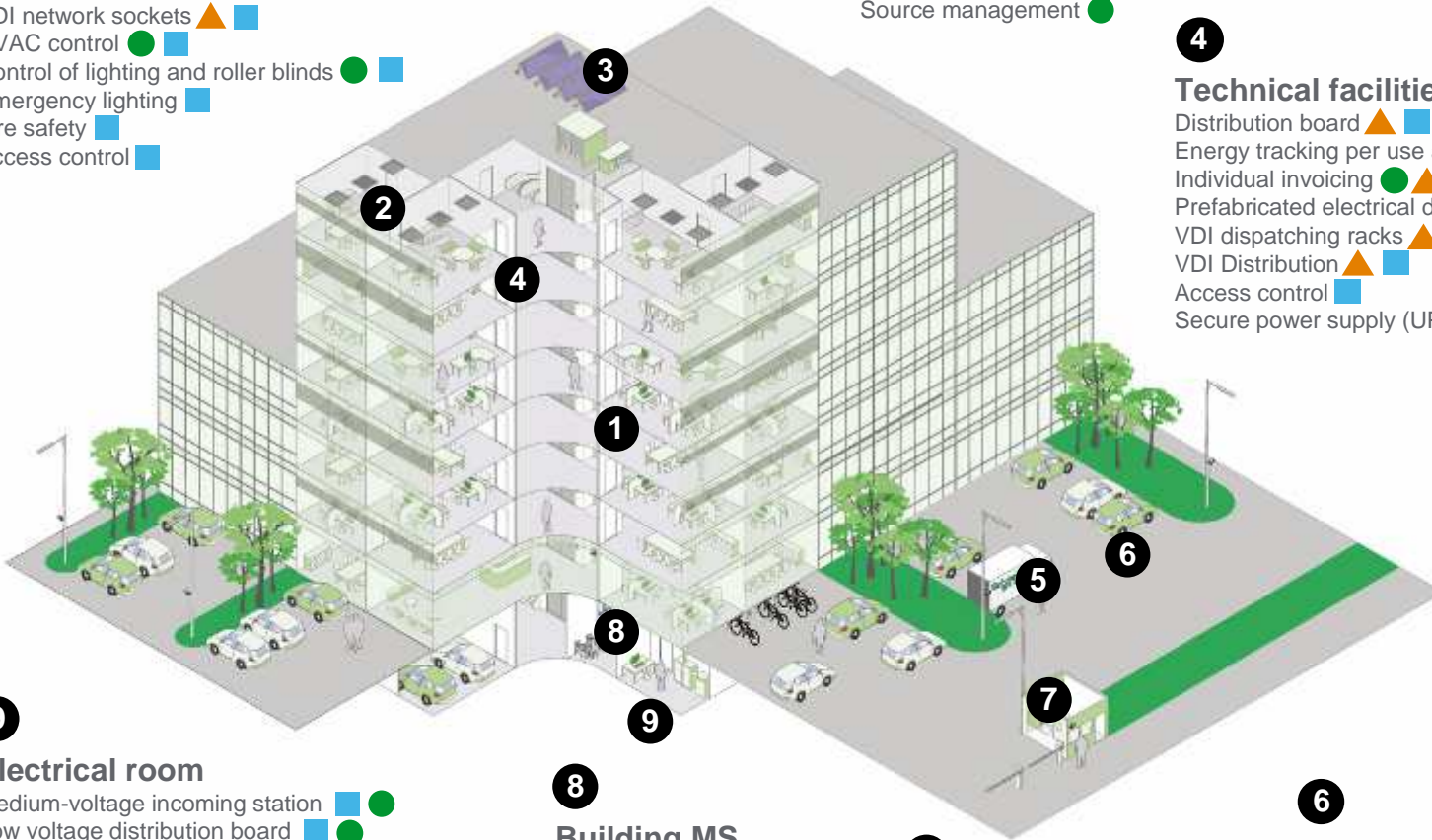
Control room

- Access control ■
- Video surveillance ■
- Fire safety ■

6

Car park & surrounding areas

- Access control ■
- Lighting control ■ ●
- Surveillance ■
- Ventilation and air extraction ●



Reducing CO₂ emissions through Office buildings *Energy Efficiency* Solutions

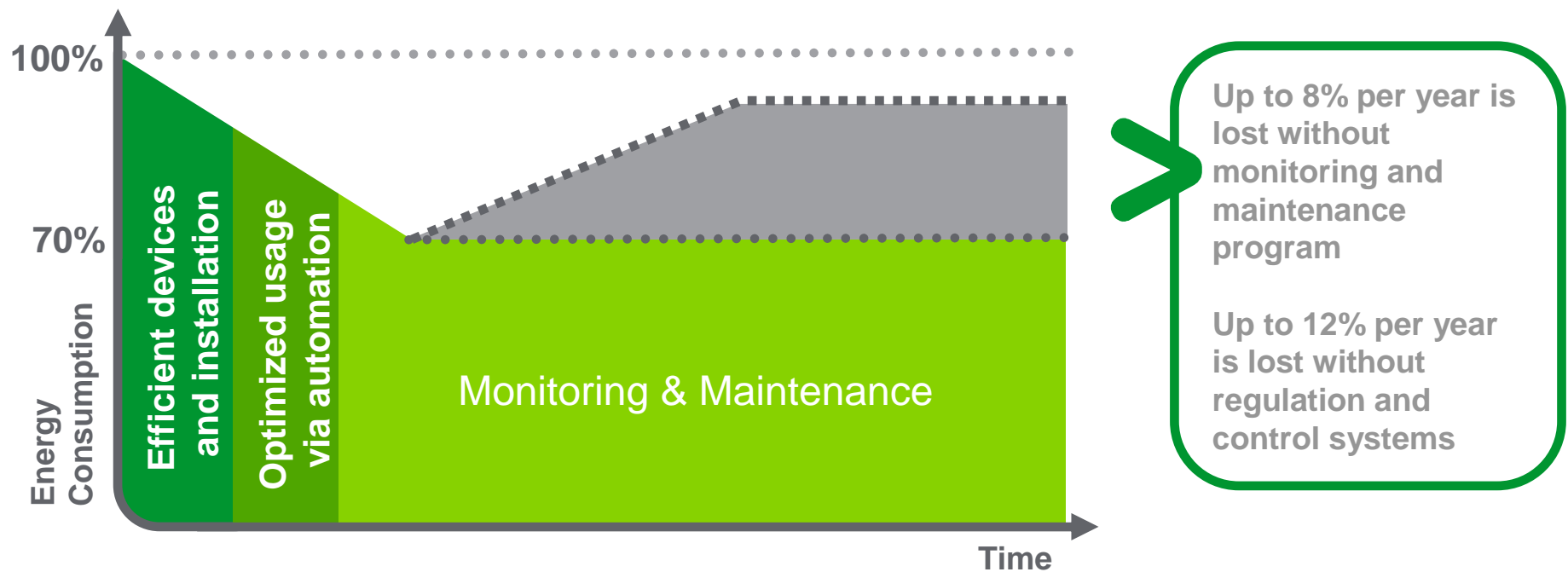
Your building's energy costs have a **direct impact**
on the environment in your boardroom.

And on the planet.

Schneider
Electric

Savings can be lost quickly...

- Unplanned, unmanaged shutdowns of equipment and processes
- Lack of automation and regulation (motors, heating)
- No continuity of behaviours

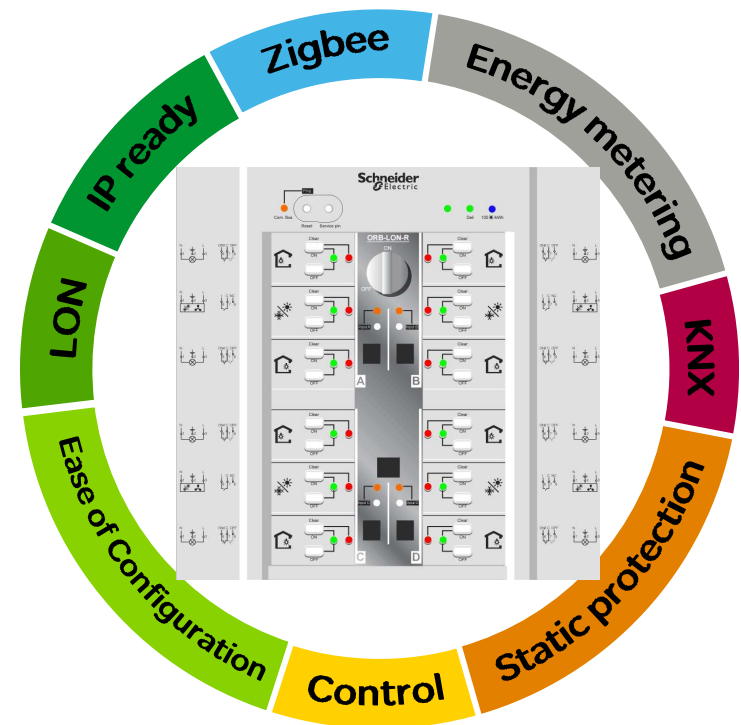


The Roombox:

*Seamless and flexible 4 in 1
energy optimiser*

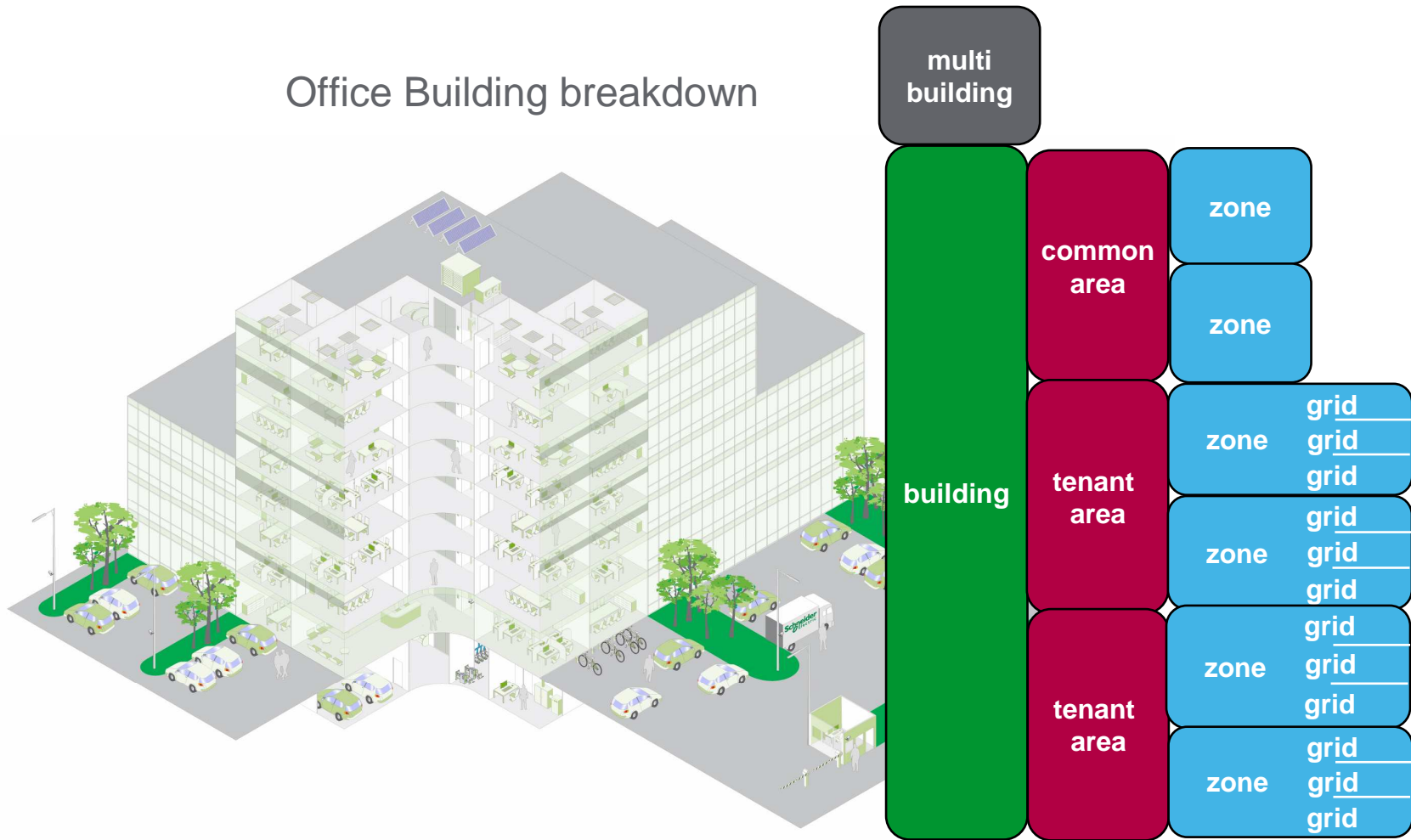
The Roombox concept: Simple, Smart and Safe - a unique combination in a compact offer

- Dedicated to a physical space of 2 to 4 construction cells(+/-50m²)
- Contributes to an efficient management of electrical energy in office by
 - Feeding, protecting, metering and controlling the loads for each infrastructure application :
 - Lighting
 - blinds and shutters
 - HVAC
- Open protocol for easy integration into a Building Automation and Control System
- Static protection for full coordination & remote reset

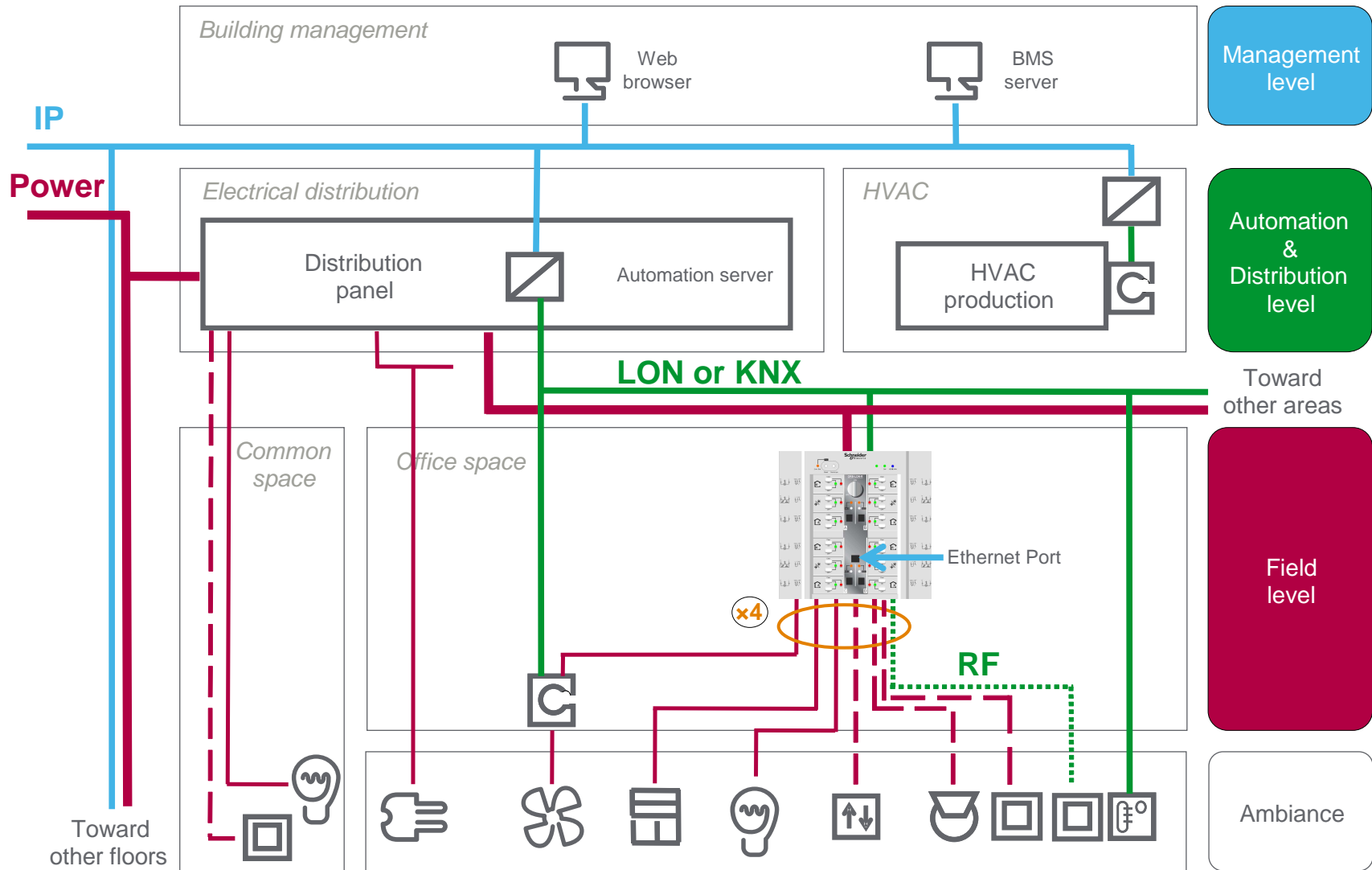


Building systems design consistent with Office Building breakdown

Office Building breakdown



Architecture design consistent with Office Building breakdown

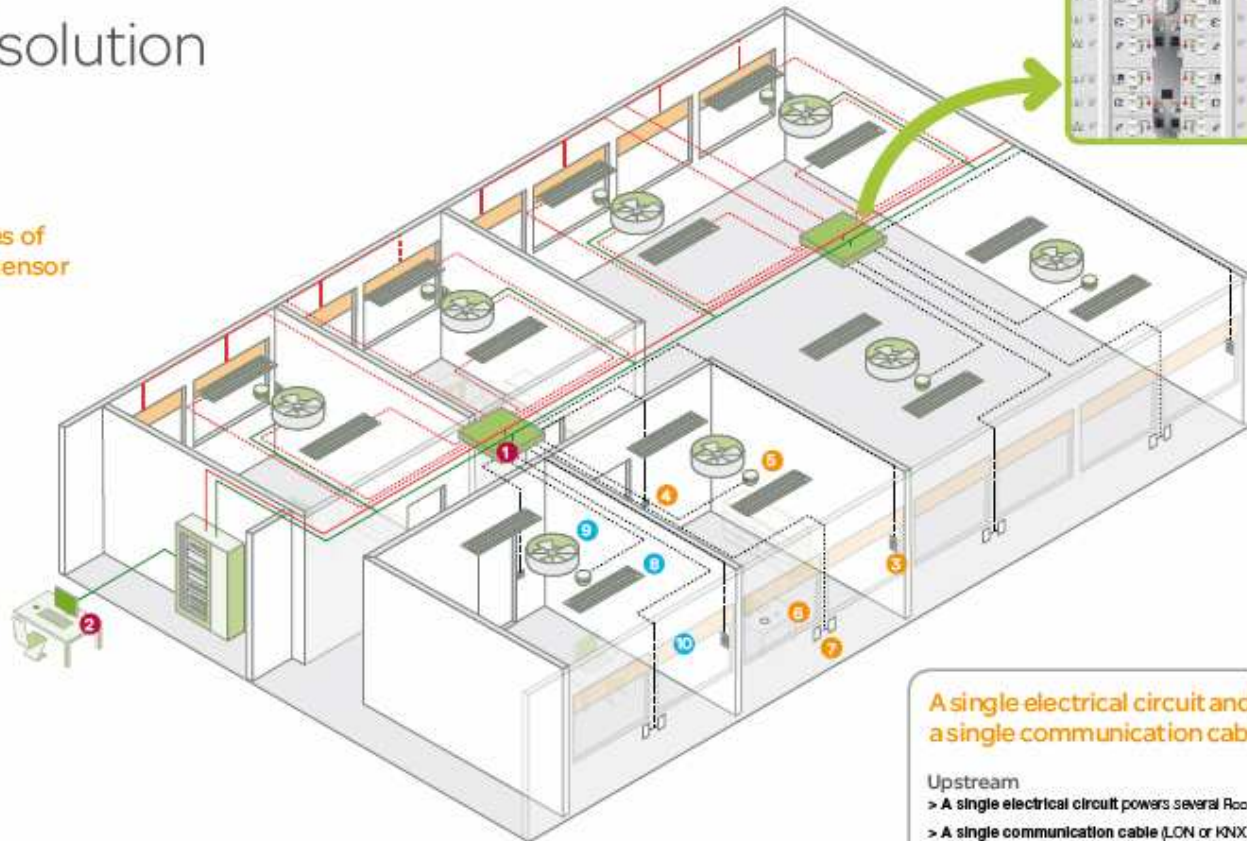


Easier, simpler and faster installation

Roombox: your 4-in-1 solution

Roombox manages 3 types of equipment via 5 types of sensor

- 1 Roombox
 - 2 BMS
Roombox works either on its own or as part of your BMS
- Sensors
- 3 Pushbutton roller blind/ shutter control
 - 4 Pushbutton light control
 - 5 Roombox multisensor motion detector and light sensor
 - 6 Batteryless control button
 - 7 Open/closed window sensor
- Equipments
- 8 Lighting
 - 9 Heating, Ventilation and Air Conditioning (HVAC)
 - 10 Blinds/roller shutters



★
The Roombox installation in the diagram shows the various types of cable in separate rooms. In a real building, the different types of cables would be located in the same room.

A single electrical circuit and a single communication cable

Upstream

- > A single electrical circuit powers several Roombox units —
- > A single communication cable (LON or KNX bus) links HVAC controllers and Roombox units to each other —
- > No additional cabling needed to link Roombox to your supervision system.

Downstream from Roombox

- > Roombox powers and controls each system individually, which reduces the amount of cabling needed and makes installation in false ceilings easier —
- > You can even opt for RF (radio frequency) instead of cabling —

Make the most
of your energy



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 Electric