

# Office building

## Integrated solutions



# SUSTAINABLE BUILDINGS: AN INTEGRATED APPROACH



**Investment calculations these days integrate the entire building's life cycle - from design right through to demolition - to be able to optimize the property value.**

Heat exchange, insulation, energy consumption are all now estimated and simulated from the design stage, ensuring that building construction follows a sustainable development approach.

Acutely aware of these new considerations, Legrand is at your side to help optimise the energy performance of your office buildings.



## AN INTERNATIONALLY RECOGNISED GROUP

As the global specialist in electrical and digital building infrastructures, Legrand offers, anywhere in the world, a complete systems offer for creating an electrical installation and an information network suitable for all types of project.

In total, Legrand offers 170,000 product references and has a portfolio of more than 4,800 patents.

**73** subsidiaries and offices,  
sales in almost **180** countries

**33 000** employees  
worldwide

**€ 4.25 billion**  
net sales in 2011



## LEGRAND AND SUSTAINABLE DEVELOPMENT

For many years, Legrand has been committed, with its customers and partners, to a process of continuous improvement to ensure the profitable, long-term and responsible growth of its businesses.

The Group thus intends to respond to the environmental, economic and social issues of today and the future.

### 1. A global approach for sustainable development

Legrand's sustainable development policy covers three areas: social responsibility, the environment and governance.

For more information, visit [www.legrand.com](http://www.legrand.com)

### 2. Reducing the impact of sites

Since 1996, Legrand has integrated management and protection of the environment in the operation of its industrial sites.

### 3. Controlling the use of chemicals

In the manufacture of its products, the Legrand Group routinely seeks technical solutions to replace hazardous substances.

### 4. Eco-designed products

Because products have a global impact on the environment throughout their life cycle, Legrand practises eco-design.



### Corporate Social Responsibility

Legrand is committed to a global policy of transparency, illustrated by voluntary actions such as signature of the Global Compact or the response to the strict social and environmental criteria of the FTSE4Good and DJSI stock market indices\*.

\* Based on an evaluation in 2011 subject to annual re-evaluation



## COMPLY WITH GREEN STANDARDS

According to different green standards (HQE, LEED, BREEAM), our way of building is currently evolving towards a more sustainable way of designing, constructing and renovating buildings.

A green building is an approach to building that considers the overall environmental impact of a building as well as the health and well-being of its occupants.

Green building programmes are voluntary, consensus-based programmes which provide guidelines to build according to sustainable criteria. If you are planning to follow this approach, Legrand's LEED or HQE-accredited experts are on hand to advise you along the way.

## REDUCE YOUR OPERATING COSTS

In light of increased energy prices, investors are looking for ways to cut consumption in their buildings.

Cutting electricity bills depends not only on a building's thermal performance but also on the choices made when selecting electricity management solutions.

Legrand offers solutions to help you improve energy consumption in your office buildings.



# SHELL & CORE: DESIGN AND CONSTRUCTION

**The aim of investment in green building techniques and solutions is to improve economic performance.**

The various certifications (HQE, LEED, BREEAM, etc.) are a way for investors to determine the environmental quality of their project.

For a company that cares about its image, choosing to locate offices in a green building underpins their commitment to a responsible approach to the environment. This trend is becoming increasingly common in a number of countries.

## **MANAGE ALL ENERGY CONSUMPTION LEVELS IN YOUR BUILDING**

To be able to manage consumption effectively, operators need to have a global overview of the building.

Legrand's control and supervision tools meet this requirement and allow corrective or preventative measures to be implemented as the need arises. These controls can function remotely.

Our solutions are designed to be easily integrated into a building management system.





Energy quality



Energy management



Energy Distribution

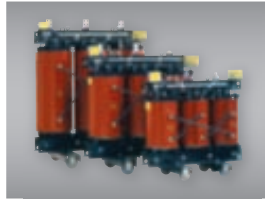
**ENERGY EFFICIENCY**  
AT THE HEART OF YOUR ELECTRICAL  
INFRASTRUCTURE



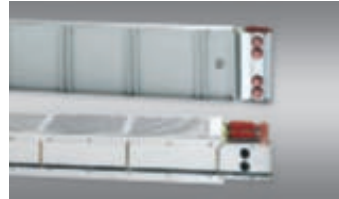
## DRY-TYPE TRANSFORMERS AND BUSBARS

Legrand low-loss transformers (up to 20 MVA) can reduce electricity consumption by up to 20% during off-peak activity phases. Compact and easy to use, they offer good resistance to short circuits and help reduce installation and maintenance costs.

Zucchini busbar trunking provides a safe and reliable solution for high power distribution (up to 5000 A). This solution is easy to install and reduces heat dissipation.



MV cast resin transformers



LV busbar trunking systems



## POWER ENCLOSURES AND CIRCUIT BREAKERS

### Ensuring equipment safety and continuity of service

Legrand XL<sup>3</sup> power enclosures are type tested according to IEC 61439-2. They accept circuit breakers from the DX<sup>3</sup>, DPX<sup>3</sup> and DMX<sup>3</sup> ranges which cover all breaking capacities and currents up to 6300 A. DMX<sup>3</sup> air circuit breakers with integrated measurement control provide a genuine response to requirements in terms of safety and energy control.



Power enclosure



Circuit breakers up to 6300 A



## ENERGY QUALITY



Capacitor bank

### Reactive energy compensation systems optimise the performance of the electrical installation

Capacitor banks compensate for the reactive energy of your electrical installation, thereby enabling energy bills to be reduced.



## ENERGY MANAGEMENT

Measurement is the basis of all diagnostics. By taking corrective action, you will be able to make savings of between 8 and 12%. Legrand's supervision software allows you to access all your electrical consumption data remotely.



Door-mounted measuring unit



Web server



Software i.communication



## SOCKETS AND CHARGING STATIONS FOR ELECTRIC VEHICLES



Green'up Premium charging stations

### Environmentally-friendly electric or hybrid vehicles are attracting an increasing number of drivers

Legrand's Green'up charging stations allow employees to recharge their electric vehicles safely at their workplace. To simplify energy consumption management and billing, each employee has a card which records the amount of electricity used.



Fire safety



Emergency lighting



CCTV

**ENSURING THE SAFETY OF PEOPLE AND PROPERTY VIA A BUILDING'S NETWORK INFRASTRUCTURE**





## ACCESS CONTROL



Biometric reader and card reader

**In office buildings, protection is required for the main entrance and any sensitive areas**

Legrand supplies an easy-to-use, low-maintenance access control system offering high levels of performance and upgradeability. It accepts up to 500 users in standalone mode and 10,000 users in centralised mode. The supervision software manages different groups of users (employees, visitors, cleaners, etc.) and records the number of users entering/exiting the building/restricted access area.



## CCTV SECURITY

**A system of readers and cameras takes care of the personal safety, car park management and sensitive area monitoring**

Legrand offers a complete solution for displaying, recording and analysing all the data relating to the building. The CCTV system can be accessed remotely from a Smartphone.



CCTV surveillance



Keypad



VMS management software



## EMERGENCY LIGHTING

**Standalone or addressable solutions for evacuating people quickly and safely**

More than ever, Legrand combines safety and energy savings with its emergency lighting solutions and their LED technology. These safety systems are available all over the world. They comply with the Group's environmental commitments. Legrand Vision System<sup>2</sup> software centralises the operating state of addressable emergency lighting luminaires.



LED emergency lighting unit



Flush-mounting emergency lighting unit



LVS<sup>2</sup> (Legrand Vision System) software



## FIRE ALARM

**Legrand's conventional or addressable fire alarm systems allow you to detect and signal a fire and evacuate a building to make it safe**

To facilitate operations and maintenance in office buildings, Legrand offers training and other services for these Fire Safety Systems (FSS).



Automatic detector



Self-contained siren unit



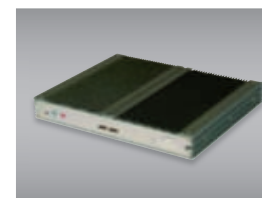
Sounder



## ACTIVE BUILDING MANAGER



Building manager viewer



Building manager controller

The active building manager is a unique system with dedicated supervision software that easily communicates with an HVAC system or a global BMS. It controls lighting management and emergency lighting systems and reports the status of fire alarms.



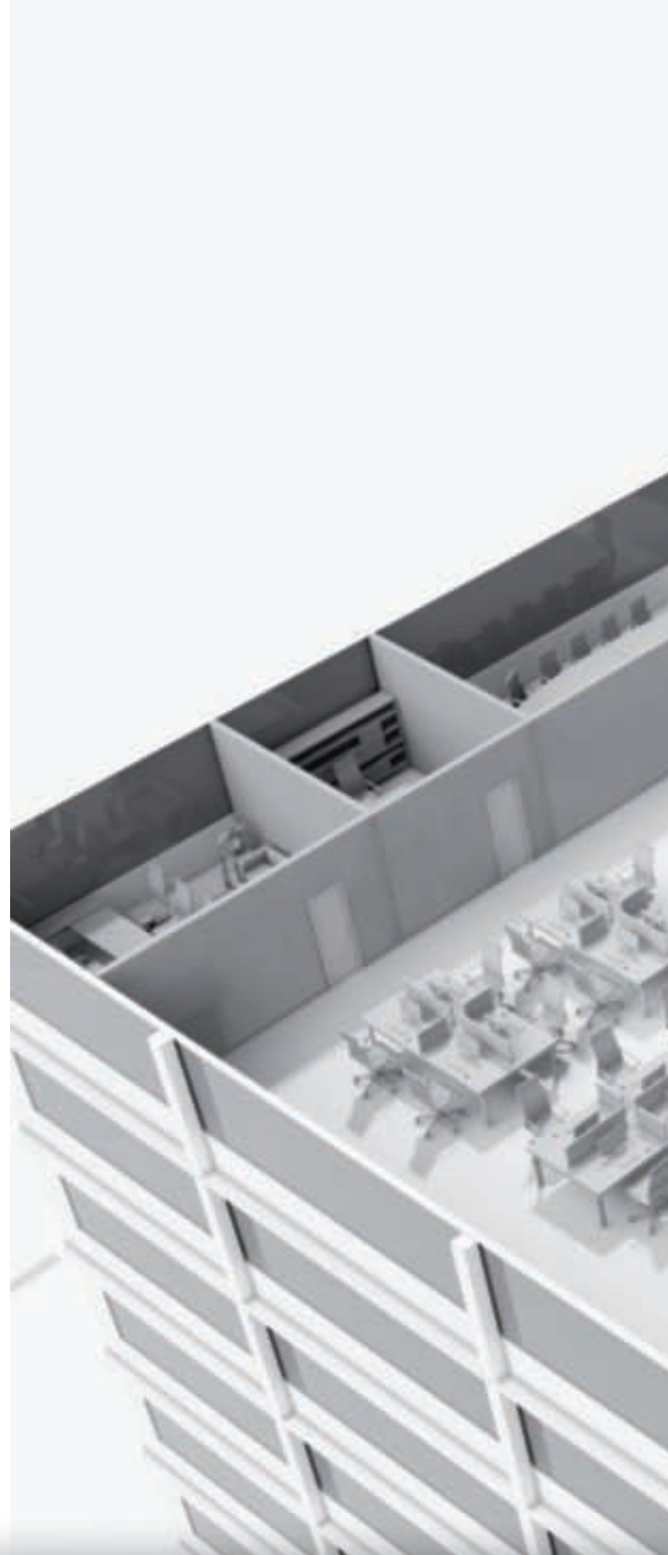
Access control

# FIT OUT: DESIGN AND REFURBISHMENT

**Installing and reorganising an office are important and often frequent changes for a company.**

In the current economic climate, businesses need to be able to adapt quickly and to anticipate future equipment requirements and changes in staffing levels, as well as developments associated with working practices.

Legrand provides solutions which not only guarantee a high level of flexibility in terms of the electrical installation but also an excellent level of service for your customers.



## **GUARANTEE PERFORMANCE & BUSINESS CONTINUITY**

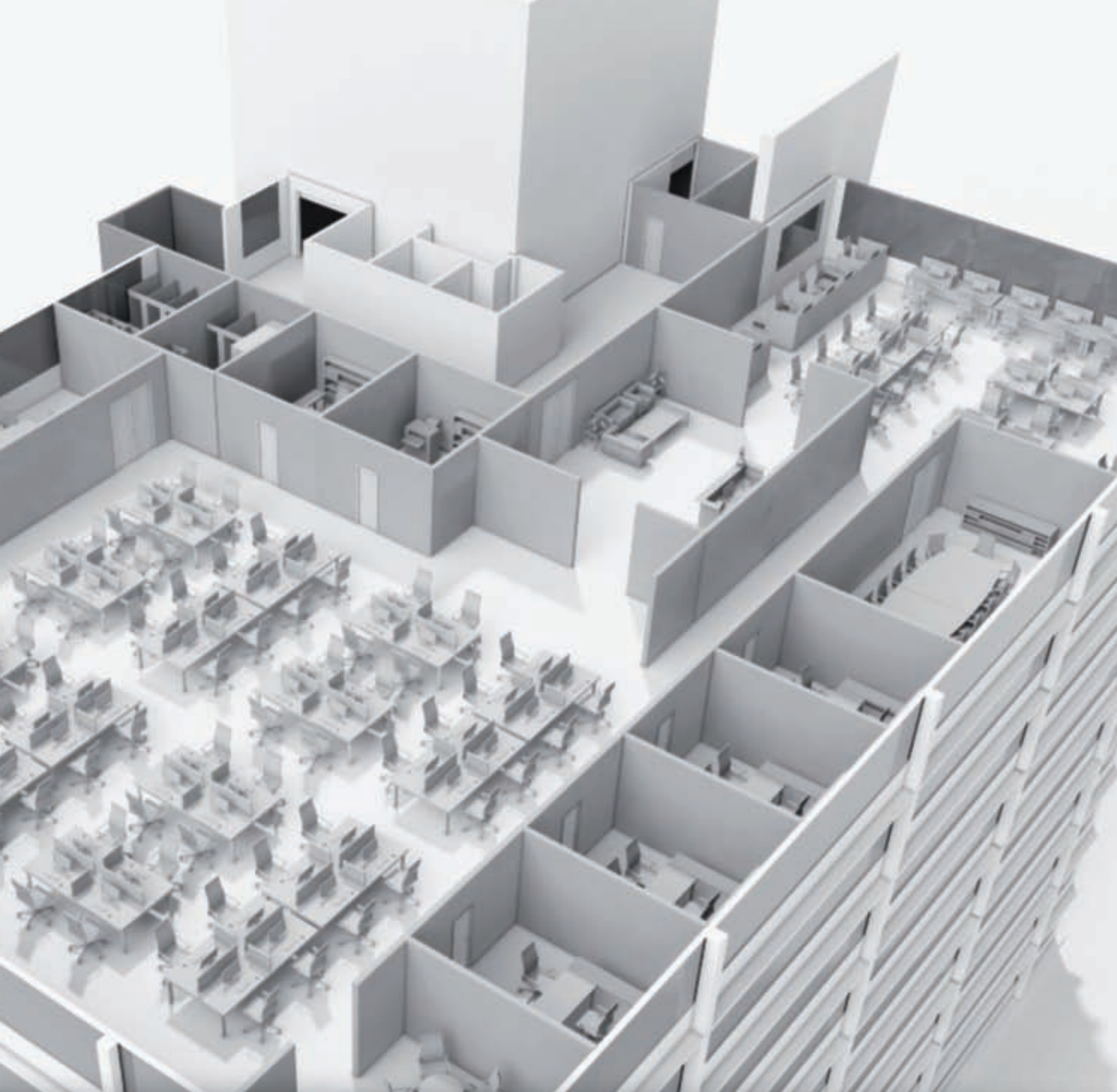
Network performance and reliability are crucial factors for any company when selecting a digital architecture.

To avoid potential data loss, the electrical network must be able to ensure continuity should the main power supply fail. It should use a secure power supply, particularly for highly sensitive equipment. Legrand can guide you through the process of selecting your architecture with its cabling systems and UPS solutions.

## **REDUCE YOUR OPERATING BILLS**

With the onset of new local regulations (such as green leases), higher energy prices and increased awareness of the environmental impact of business activities, landlords are increasingly looking for solutions which will help them manage electricity consumption more efficiently.

Legrand offers high-performance solutions - such as measurement control units and lighting management systems - which are capable of cutting electricity bills in office buildings.



## ADJUST YOUR OFFICE SPACE WITHIN YOUR ORGANISATION

In offices, churn\* is often one of the highest operating costs. Having a flexible architecture will generate significant operational cost savings for a building.

Businesses require their workspaces to be highly flexible. They must, for example, be able to change from an architecture designed for individual offices to one for open-plan offices or desk sharing. To ensure such changes are carried out as smoothly as possible, Legrand offers electrical and digital architectures which make it easy to reconfigure offices and adapt them to meet a company's new organisational requirements.

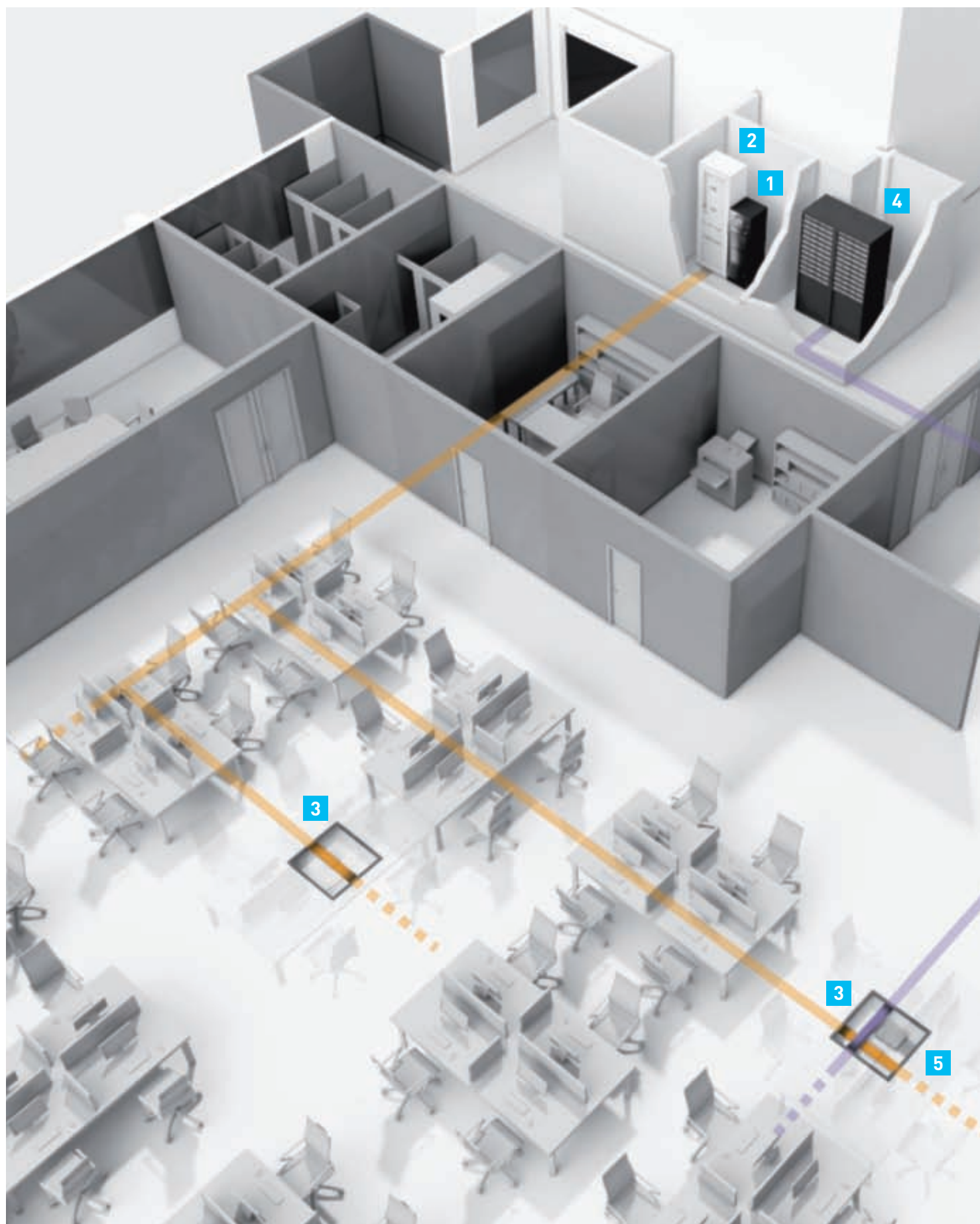
(\*churn is the number of people who are moved around a building in one year, usually measured as a percentage)

## ENHANCE YOUR WORK ENVIRONMENT

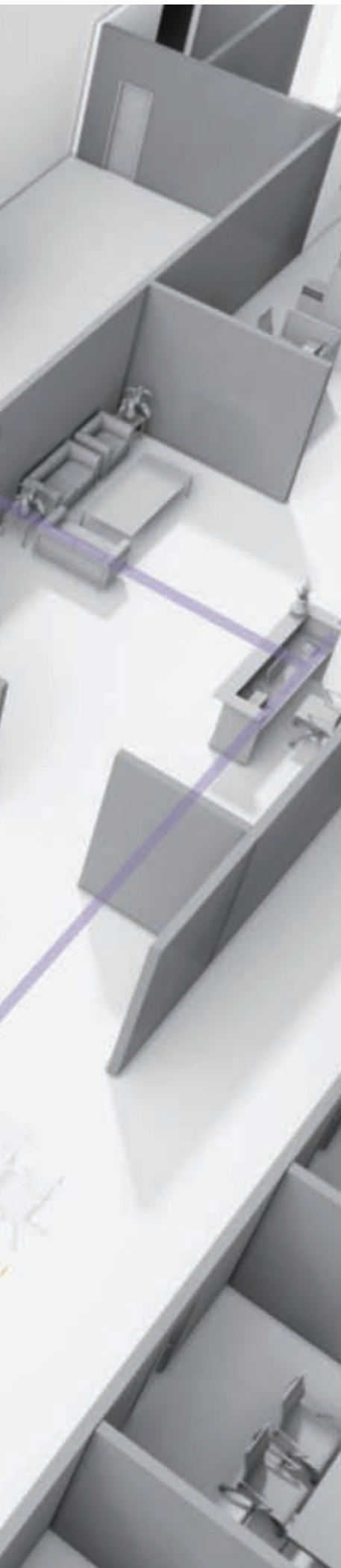
Comfort of occupants has a significant effect on productivity. Many studies have shown that low stress levels (good location, right temperature, correct lighting levels, fast access to information, etc.) and a good level of comfort will increase the productivity of your employees.

To enhance comfort in the workplace, Legrand has developed solutions which allow office planners to create specific scenarios which are specially adapted to the different working requirements in meeting rooms, individual offices and open-plan offices, thus providing occupants with an attractive and comfortable working environment.





# FLEXIBLE ELECTRICAL ARCHITECTURE AND CABLING SYSTEMS MINIMISE UPGRADE COSTS



ELECTRICAL DISTRIBUTION

CABLING SYSTEMS DISTRIBUTION

## 1 UPS (UNINTERRUPTIBLE POWER SUPPLY)



Modular or traditional UPS enclosures

An efficient solution to guarantee continuity of service for computers and to protect sensitive equipment in office buildings. UPS units provide emergency power to workstations in the event of a mains power failure.

## 2 POWER ENCLOSURES AND PROTECTION

### Ensuring personal safety and continuity of service

To ensure electrical distribution on every level, Legrand offers a range of power enclosures and circuit-breakers. Legrand's desktop multi-outlet extensions allow Hpi (High immunity to unwanted tripping) residual current protection to be embedded as close as possible to the workstation, thus providing discrimination for the installation.



XL³ 400 power enclosure



RCBO-Hpi

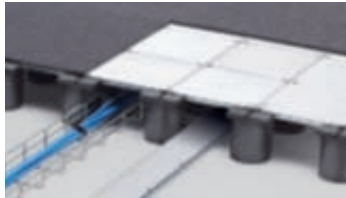


Desktop multi-outlet extensions

## 3 UNDERFLOOR BUSBARS

### Quick and easy reconfigurations through Easybar and Electrak busbar solutions

All the systems have minimal parts to facilitate rapid push and fit assembly. The flexible features of the Easybar and Electrak busbar systems minimise cost and disruption during any future office changes.



Easybar busbars



Electrak busbars

## 4 LEGRAND CABLING SYSTEM<sup>2</sup>



LCS<sup>2</sup> enclosure

### The Legrand commitment: a 25-year guarantee on the performance of the channel and its components

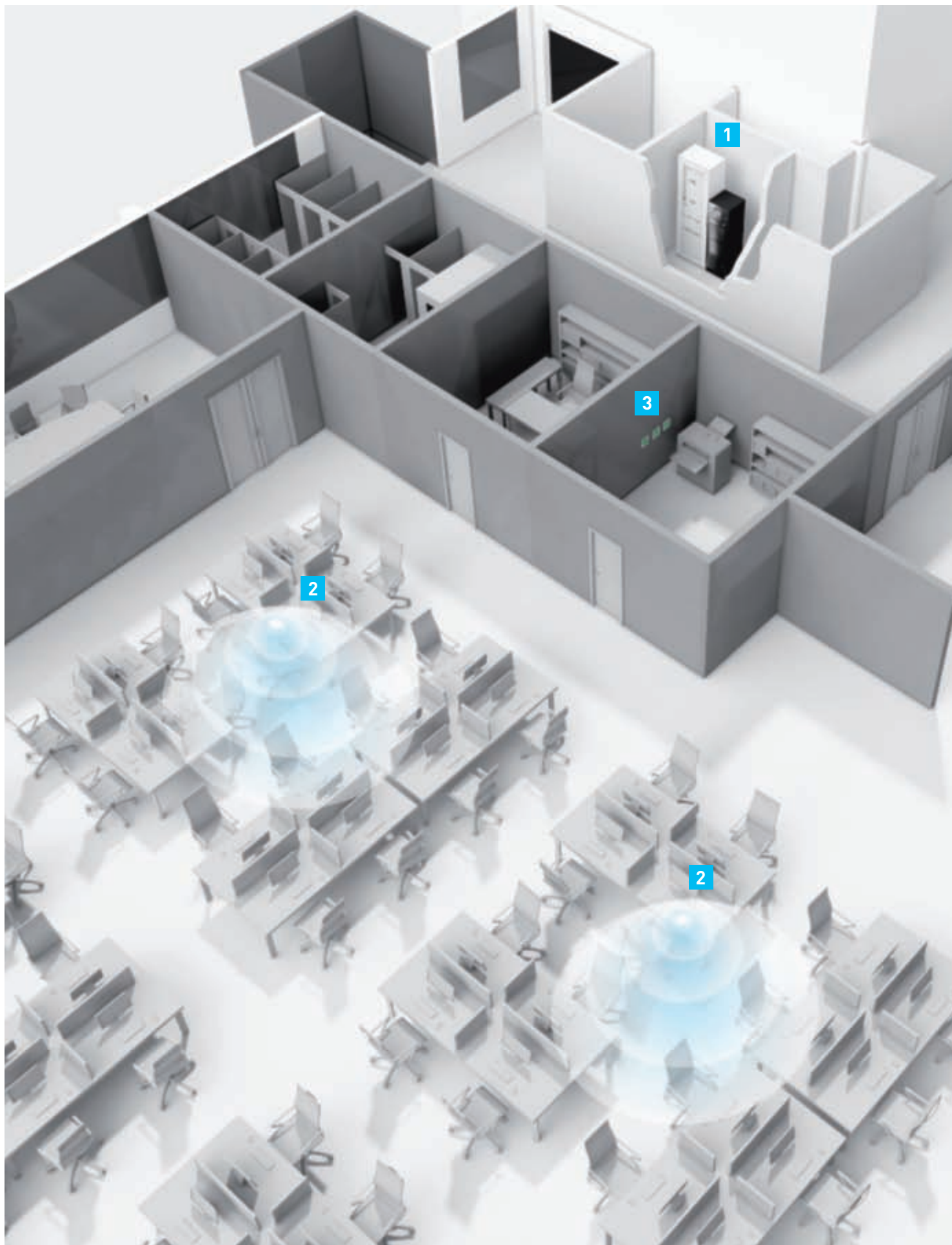
This structured cabling system offers fiber optic solutions, copper solutions, Wi-Fi and cabling systems enclosures. The LCS<sup>2</sup> range was designed to optimise the performance of office networks.

## 5 CABLE TRAYS AND AREA DISTRIBUTION BOXES



Cablofil wire mesh cable tray and area distribution box

Legrand cable trays are available in sheet steel and wire mesh and are safe to install copper and fibre optic cables. Area distribution boxes ensure data security and performance. They facilitate the addition and connection of new digital equipment, which helps reduce operating costs.



## **MONITOR AND CONTROL ELECTRICITY BILLS IN YOUR OFFICES**



INTELLIGENCE

## 1 ENERGY MEASUREMENT

By monitoring your consumption, you can make savings of between 8 and 12%. And by combining this with specific action plans, you can optimise performance. The certifications (BREEAM, LEED, HQE) will encourage the use of metering in commercial buildings, per application in each panel, with consumption levels displayed on the front of the unit (for heating, cooling, hot water production, lighting, power sockets, etc.).



Electricity meter



Legrand Supervision software

APPLICATIONS

## 2 LIGHTING MANAGEMENT

Putting a stop to energy waste, by delivering just the right lighting, exactly where it's needed. Legrand's lighting management solutions provide an appropriate and dependable response for office buildings. Legrand offers standalone or networked solutions to control passageways (corridors, stairwells, etc.) work areas (offices, meeting rooms) or the entire lighting system for a specific area or building.

From very simple installation with standalone sensors to a global KNX solution with supervision, Legrand is able to control any lights in any area to maximize energy savings and ensure maximum comfort and flexibility.



BUS/KNX system



BUS/SCS system



Radio/ZigBee® system

## 3 GREEN SOCKET



Green Socket

**Green sockets are truly “ecological”, significantly benefiting energy performance and cutting consumption levels**

This system enables the sockets to function only at certain times. The green colour identifies the socket's special circuits controlled by a time switch installed in the panel. By switching off their power supply, for example from 8 pm to 7 am and at weekends, a 25% saving can be made.

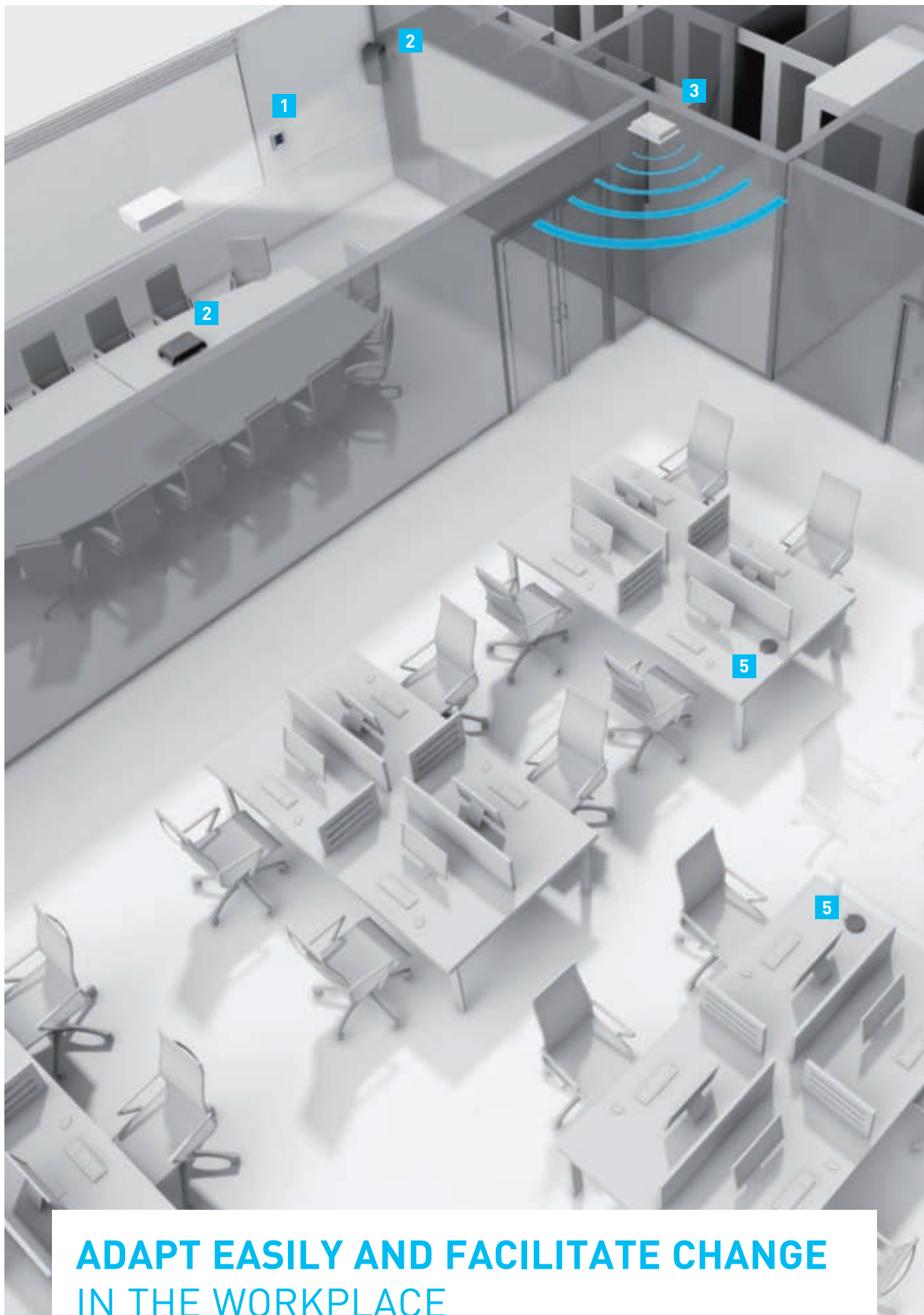
MANAGEMENT

## 4 BUILDING MANAGER VIEWER



Building manager viewer

Installed on a dedicated computer, this software provides lighting management, emergency lighting, power consumption and fire alarm data.



**ADAPT EASILY AND FACILITATE CHANGE  
IN THE WORKPLACE**





MEETING ROOM

## 1 CONTROL SCREEN



BUS/KNX system touch screen



BUS/SCS system touch screen

**Intelligent solutions for controlling lighting, roller blinds, projector screens, etc. with a single action, optimising both user comfort and efficiency**

Legrand's touch screens allow centralised, local or remote control. These automation systems use BUS/SCS or BUS/KNX technology. Any modifications to the installation are easily made thanks to ZigBee wireless technology.

## 2 POWER, AUDIO AND VIDEO SYSTEM

**Various connections contribute to working efficiency in conference rooms, meeting rooms and open-plan spaces**

For meeting rooms with a central table, the meeting room multi-outlet extension is a conveniently designed connection solution for powering and networking up to 6 computers. Any type of audio and video socket can be integrated to provide analog or digital video projection.



Moulded HDMI and pre-fitted HD 15 connectors



Meeting room module

## 3 WI-FI



Manageable Wi-Fi access point

Now an essential part of structured cabling systems, Legrand's Wi-Fi terminals allow users to remain connected at all times.

They can be installed in false ceilings, surface-mounted or flush-mounted along a wall. The controller is used for Wi-Fi network management (signal power, network security and traceability).

## 4 FLOOR BOXES AND MINI-COLUMNS



Mini-column



Floor boxes for raised access floors

**Flexible solutions for routing mains voltage and extra low voltage as close as possible to the users**

Floor boxes can be quickly integrated into concrete and raised access floors. They are available ready-equipped or empty for custom configuration. Mini-columns are installed discreetly under the desk to provide power within easy reach.

Floor boxes and mini-columns both accept wiring accessories complying with different international standards (British, German, etc.).

## 5 INTEGRATED WORKSTATION SOLUTIONS

**With its new offer of integrated workstation solutions, Legrand provides users with functionality, ergonomics, comfort and speed of installation**

Pop-up boxes, power & data desk grommets, desk modules all integrate harmoniously into any type of workstation for individual or open-plan offices ... Immediately operational for users.



Pop-up boxes



Power and data desk grommets



Flush-mounting office modules

WORKSTATION AND OPEN-PLAN



Day-to-day support, a specialist design office, extended product warranties



Showrooms and products in real-life situations worldwide



Training sessions and presentations run by professionals

## AT YOUR SERVICE ALL OVER THE WORLD

**On all office building projects, Legrand is at your side, monitoring the project carefully from the initial idea through to construction, as well as during use.**

At each stage of the design, Legrand benefits from a certified network of partners who bring their technological expertise to the table and provide essential backup to help the project progress.



A variety of communication materials - catalogues, technical brochures, website, etc.



Software for determining the size of installations and for programming products



Certified products - LOVAG - ACAE certification, IEC 60439-2 compliance



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