

# Commercial Solutions

Automate your commercial buildings with HDL smart systems.







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# Preface

Up till recently, buildings were considered a depreciating asset, but there is a way to make the building a returning investment. To upgrade the building, it is not only for the building value itself but also the experience of the occupants. That's why an automation solution exists for commercial buildings. Besides, find out below how do the commercial solutions work on the most concerned topics like energy saving, security, etc.



Energy Saving



Security



More

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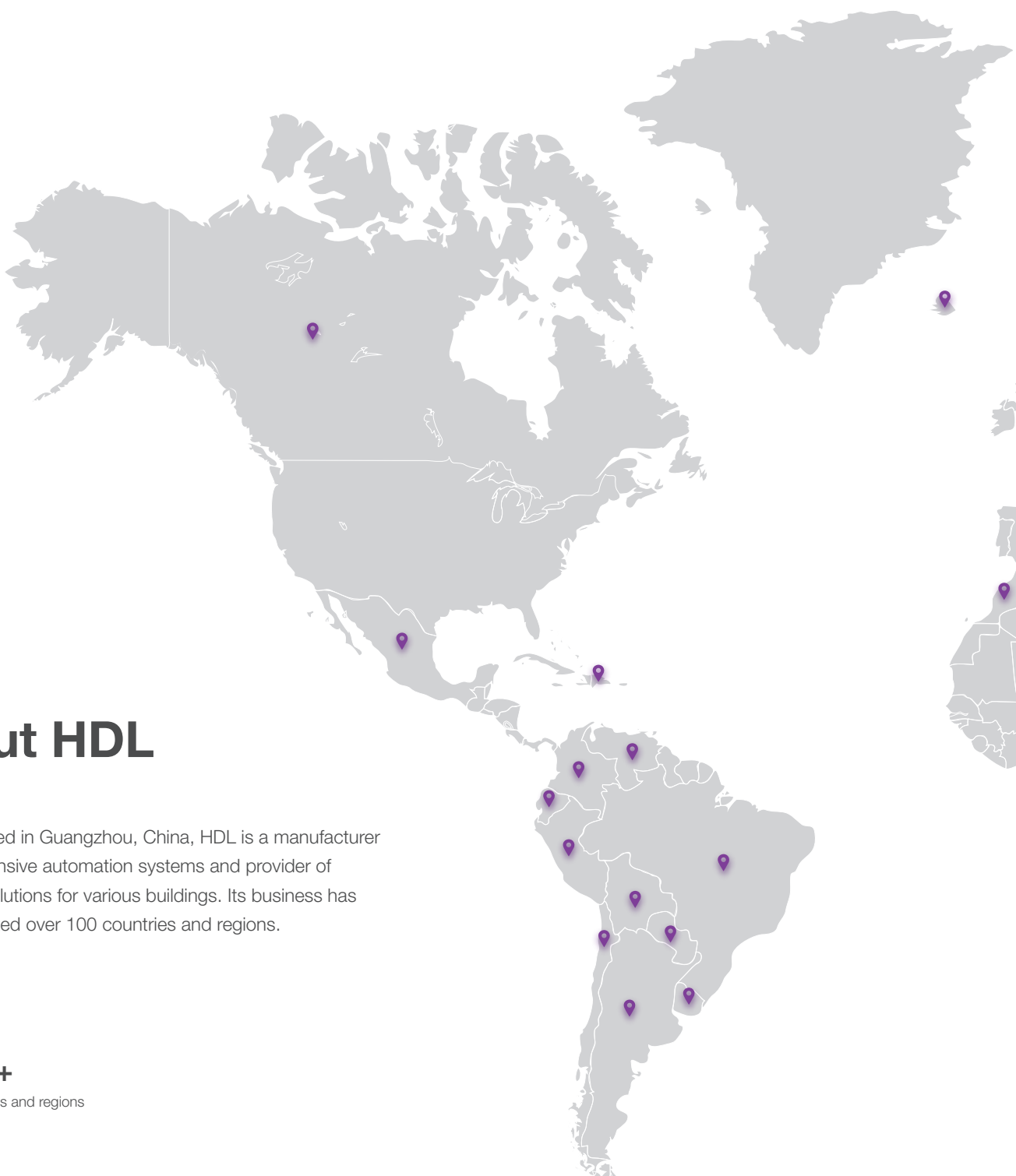
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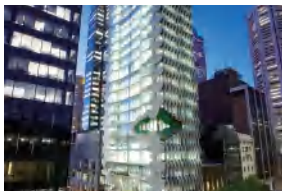


# About HDL

Headquartered in Guangzhou, China, HDL is a manufacturer of comprehensive automation systems and provider of integrated solutions for various buildings. Its business has been presented over 100 countries and regions.

 **100+**  
Countries and regions

HDL offers smart systems of proprietary technologies as well as open standards like KNX. With these systems and products, automation solutions can be designed to deliver convenience, comfort and energy efficiency. Countless commercial buildings around the world, such as the office building of Australian Institute of Architects, Dubai International Airport, BMW World Museum and more are benefiting from HDL automation solutions.



The office building of Australian Institute of Architects



BMW World Museum

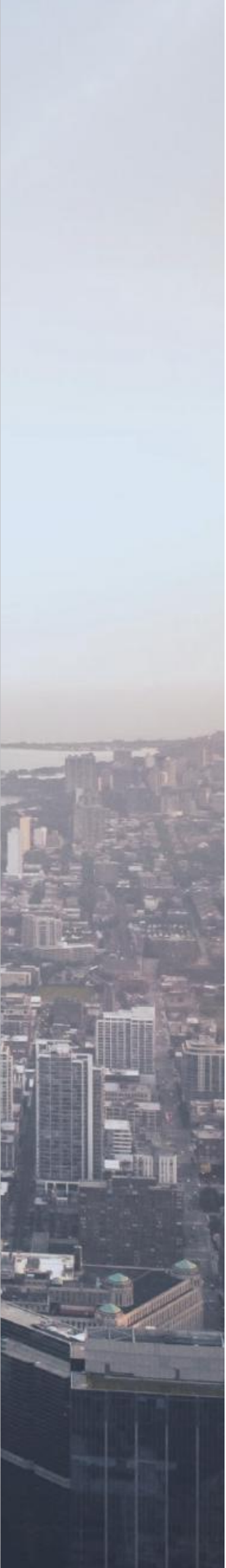


Dubai International Airport

An aerial photograph of a city skyline, likely Chicago, during sunset. The sky is a mix of light blue and orange. A large, thin black circle is centered in the upper half of the image, containing the text "Why HDL". The city below is densely packed with skyscrapers of various heights and colors, with the Lake Michigan coastline visible in the distance.

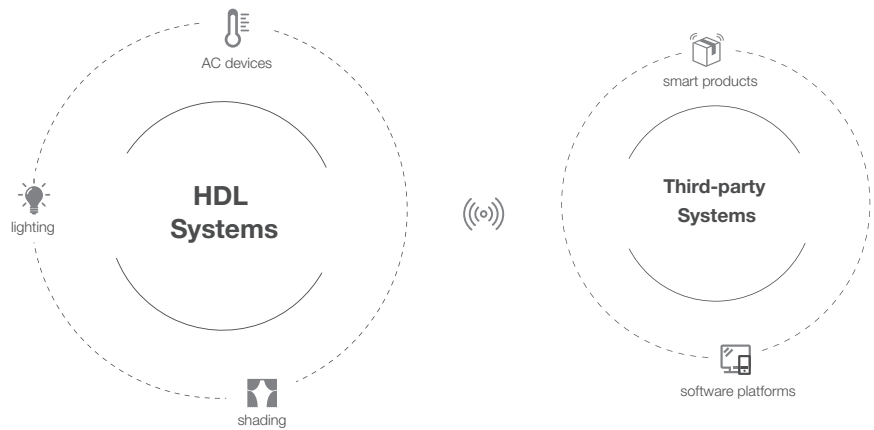
# Why HDL





## True Integration and Compatibility

Not only can HDL systems be integrated with non-smart devices such as lighting, shading and AC devices, they can also work with third-party systems, software platforms and smart products such as HomeKit, Alexa and smart door locks to create a real and complete automation experience for users.



## Reliable Quality

HDL has years of technology accumulation and strict quality management procedures. All our products must go through sufficient technical tests and strict quality checks before putting into production.



## Longstanding and Trustworthy Brand

HDL was established over 30 years ago. Our products have been applied to tens of thousands of projects and won numerous industry awards presented by professional organizations.

## What is a commercial solution?

A commercial solution is an automation solution designed for commercial buildings basing on smart systems. It enables users to control and manage lighting, shading, HVAC, security system or more features in the building to improve energy saving, efficiency and occupant comfort.

As smart technology developed, a commercial solution can be improved with the building management system (also known as BMS) that can utilize all kinds of actuators and gateways to enable device communication and control of multiple applications on a single software platform.



 Security





Lighting

Shading



# Why we need automation solutions for commercial buildings

By adopting automation solutions, commercial buildings can effectively realize management and control of heating, lighting, ventilation, audio, shading, security and other features. It can remarkably increase efficiency and reduce operation cost.





## Energy Saving

Energy used by commercial buildings is always a major concern. Nowadays, buildings consume 42% of global energy resources and 53% of the world's electricity. But half of them are wasted due to inefficient building management systems.



# How to save energy ?

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Automation control of a building can help a lot in energy saving. For example, with door contact and sensors, HDL smart system enables lighting devices to be turned on when a person enters a room, air conditioners to be turned off when a window is opened, etc.



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With HDL commercial solution, the management staff can monitor the electrical devices and appliances in real time. What's more, the users can get energy usage report from the system. Therefore, they can optimize resource allocation to improve energy efficiency.



## Efficiency

Due to the attributes of a commercial building, it is in a strong need of smart management. With commercial building solutions, the management staff can centrally control all the devices in the building through a PC, wall panels or iOS/Android devices.



Apart from centralized control, automatic control also can be a great help in improving efficiency. Automatic control is running in the background to assist the user. For example, for a shopping mall, it can be scheduled to control the lighting, AC, shading, etc. in the perfect status for business hours.





## Comfort

Buildings can be considered our second skin since we spend almost 75% of our lives in one. The main idea is that a building should adapt to people but not the other way around, thus a lot of applications have been applied to increase user comfort. Let's take the office as an example.

## Easy control

Without a row of switches on the wall, the occupants can easily control the lights, curtains, and HVAC on ONE smart panel with intuitive user interface of icons and captions.



Light



HVAC



Curtain



More



DLP Panel



## Automatic control

The lighting, temperature as well as air quality particularly affects occupant experience. With logic setting combining sensors running in the system, the buildings will automatically keep brightness while making full use of natural light, and the HVAC at the comfortable temperature, so as the air quality.



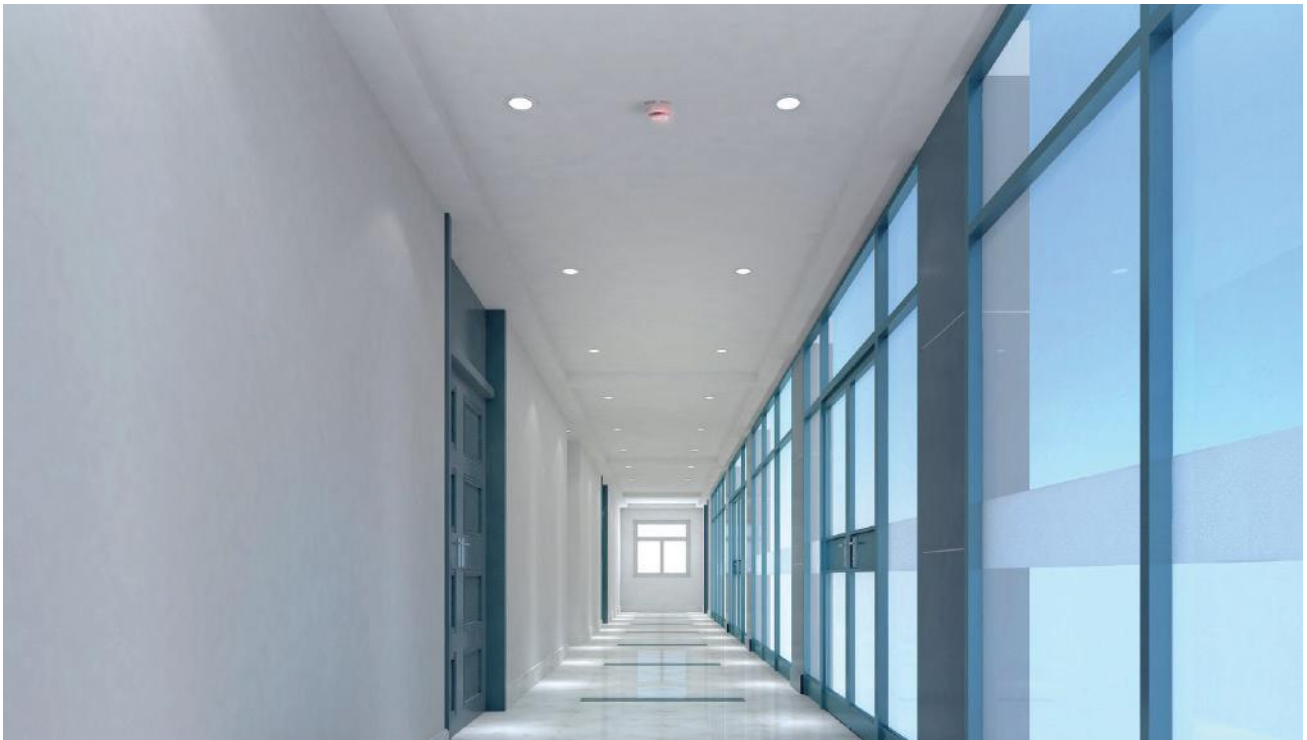


## **Safety & Security**

A commercial solution can improve safety and security by integrating sensors and other devices.

## Safety applications

With the building automation system, some of the functions can be realized to guarantee the safety of the occupants, such as fire alarm systems, water leakage, and broken light circuits detection.



For example, lighting and audio can be fully incorporated into a building's fire protection system. Besides, the management staff can remotely monitor and control all the electrical devices and appliances.

Meanwhile, the energy usage within a building or zone can be monitored in real time. If the system detects excessive or unusual energy consumption, building management staff can be notified.





## Security applications

Commercial buildings particularly have the demand for security systems, which can be configured with access control, security alarm systems, CCTV systems, etc. The management staff will receive a message when an intruder is detected.

# What HDL offers for commercial solutions

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Currently, our product portfolio consists of three comprehensive automation systems, namely, Buspro, Buspro Wireless and KNX. These are distributed systems that can connect with most electrical devices and appliances in a building and allow users to control them on a wall panel, mobile app or a PC.



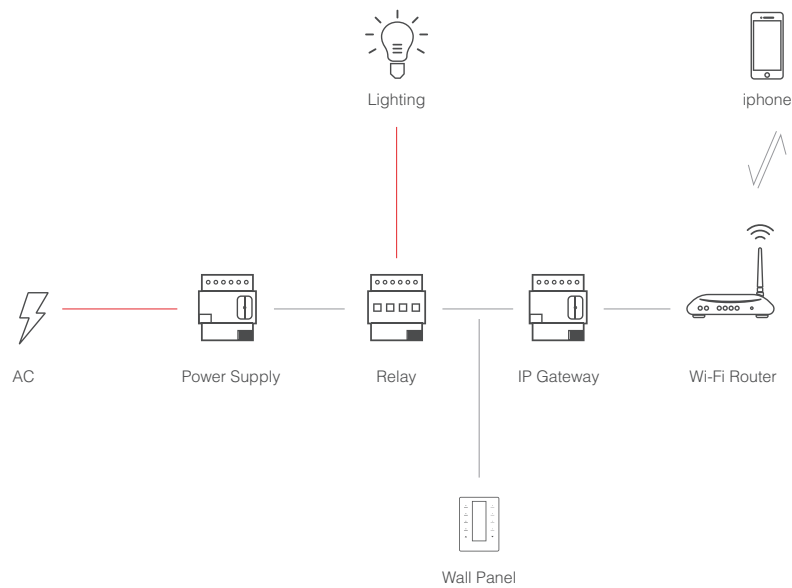
Buspro is a wired system that runs HDL's proprietary protocol while Buspro Wireless is a wireless one as you can see from its name. Besides, HDL is also a manufacturer member of KNX International and board member of KNX China. And among them, Buspro system and KNX system are often applied in HDL commercial buildings.



# buspro

## A powerful and flexible automaton system

Buspro is a distributed communication system based on the RS-485 standard. It is able to connect with conventional non-smart devices covering the features of lighting, shading, air-conditioning, heating, background music, security, etc.



An unparalleled range of products enables each Buspro installation to be customized to meet the exact requirements of each project. It can be used in various types of buildings like homes, office buildings, urban complexes, large gymnasiums and hotels. Users can decide the functions and scale of the system according to their needs.



## **a worldwide standard for home and building control**

KNX is an intelligent building communication protocol managed by KNX Association, which has over 400 manufacturer members. Solutions based on KNX are widely adopted around the globe.

- Large eco system with over 400 manufacture's.
- Flexibility and adaptability to future developments.
- Reduced installation time through the use of a single bus.
- International standards for exceptional products.

Regardless of who manufactures a KNX product, all KNX solutions can work together. KNX is an open standard for commercial and residential building control. As a manufacturer member of KNX, HDL offers high quality KNX products to the market.

# HDL Solutions

To meet the requirements from different projects, HDL has developed an extensive product range, including various controllers, sensors, control panels, gateways, system management software and apps.



HVAC



Music



Shading



Lighting



Security & Safety

## HDL Products

Control Panels/Panel Power Interfaces

Controllers/Actuators

Sensors

Gateways/Dry Contacts

Audio

Infrastructure Devices/Accessories

Software

# Lighting

LED lamp, spotlights, down light, panel light, ceiling light.



## Automatic control according to occupancy

Automatic lighting control according to occupancy is commonly applied in buildings. With motion sensors, lighting control could be energy-efficient.

For example, the system will automatically switch off the lights in empty room. But one enters the room, lights will be switched on again.





## Lighting effect

On occasions like meeting, eating and working, you can adjust the brightness, color and color temperature of the lights to create the right atmosphere.

### On HDL smart panels

- You can dim the light with a slider and see the brightness in percentage.
- The lighting interface intuitively shows the current light color. You can select the color for your lights by directly touching the color disk on the interface.
- Color temperature control is available. You can adjust your color temperature from warm to cool for the ongoing activity.





Panel



Sensor



Actuator

## Constant lighting

With smart lighting solutions, the brightness can be kept at a comfortable level while making full use of natural light. Lighting can be automatically activated when brightness level falls below a preset level.





Panel



Sensor

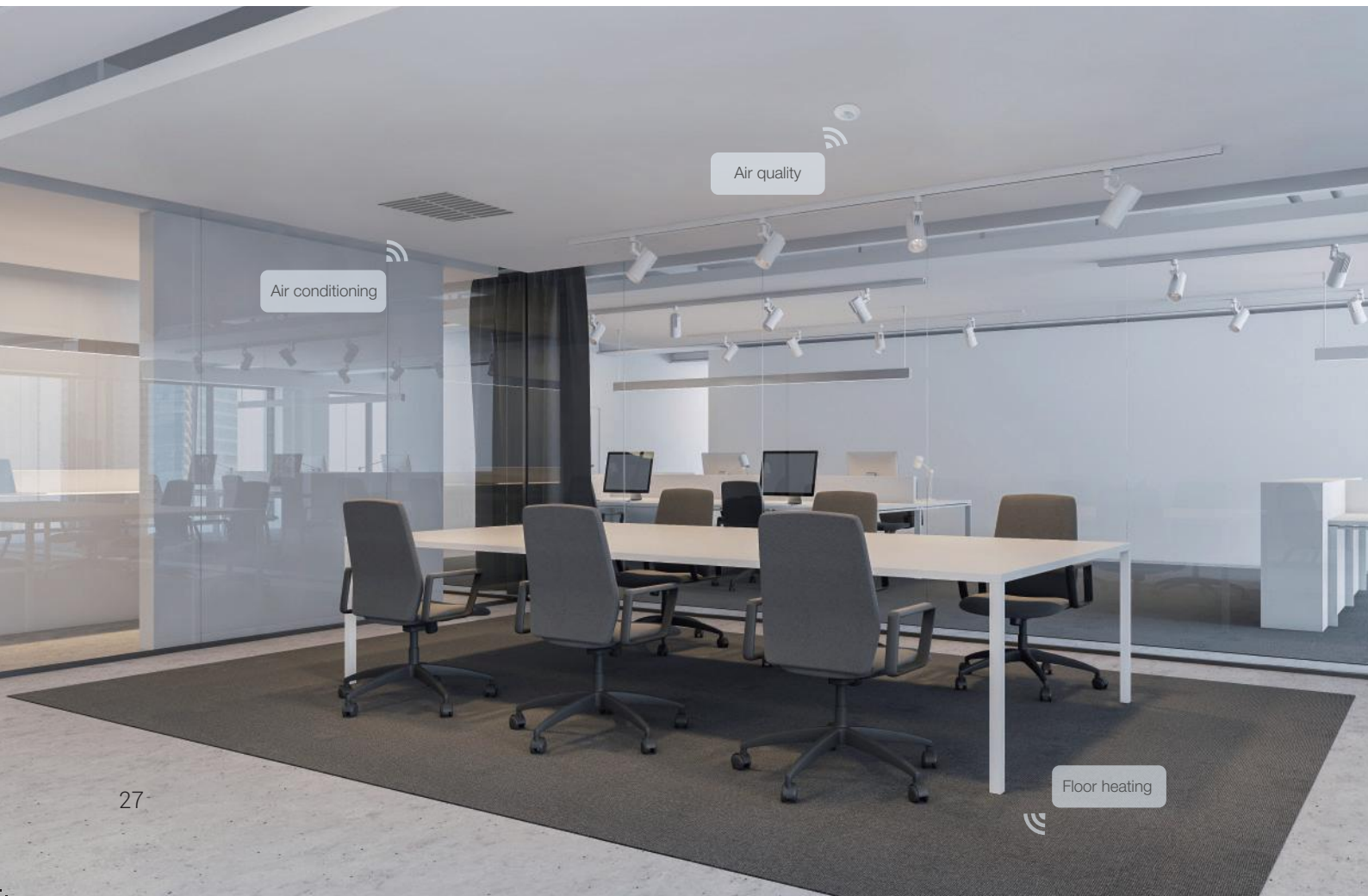


Actuator

# Climate control

HDL smart system can automatically run the air-conditioning, heating and ventilation system. It keeps the ambience healthy and comfortable for the occupants. It also gives building managers intuitive and convenient ways to do it manually.

For example, you can set your AC temperature with a PC, mobile device, or simply touch the wall panel right beside you.







Panel



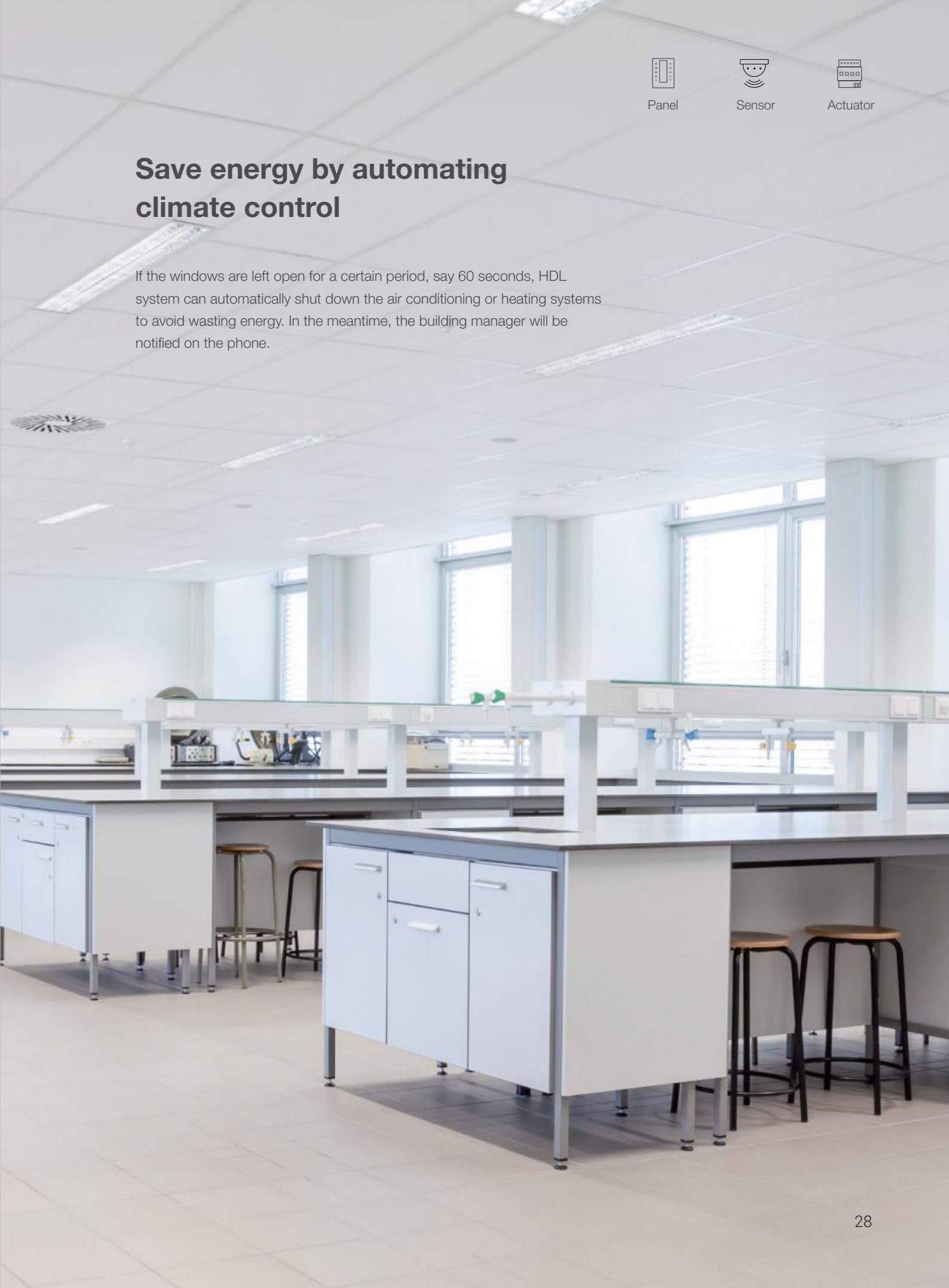
Sensor



Actuator

## Save energy by automating climate control

If the windows are left open for a certain period, say 60 seconds, HDL system can automatically shut down the air conditioning or heating systems to avoid wasting energy. In the meantime, the building manager will be notified on the phone.

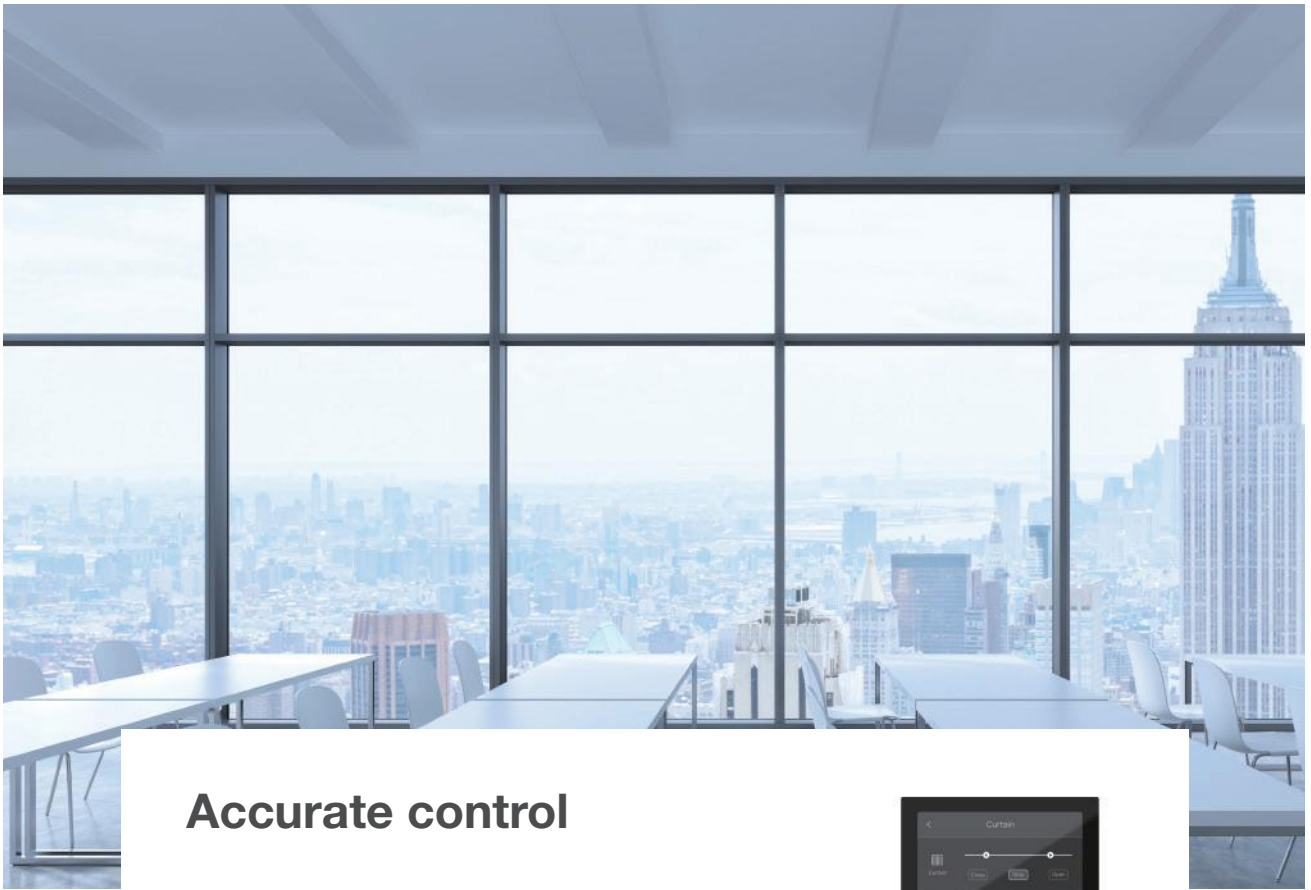


# Shading control

## Centralized control

With centralized control over all devices and appliances, you can remotely draw the curtains in a room, or all the curtains in the building by pressing a single button.





## Accurate control

With the HDL curtain motors, the curtains can run the full way to close and open while can be stopped at any position. Or you can select a percentage to let them stop at a preset position.

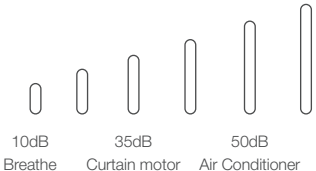


Curtain control

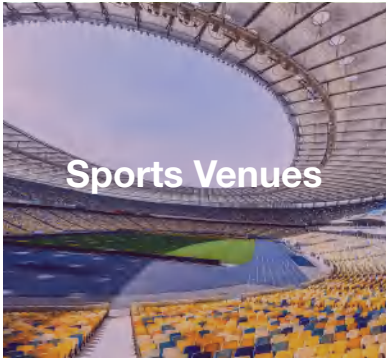
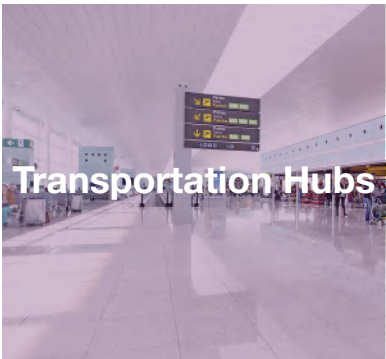
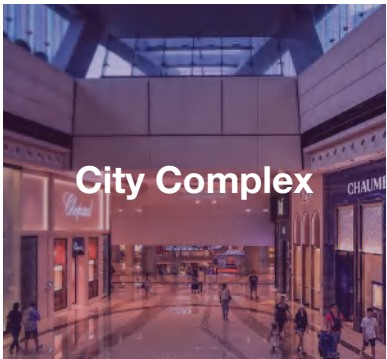
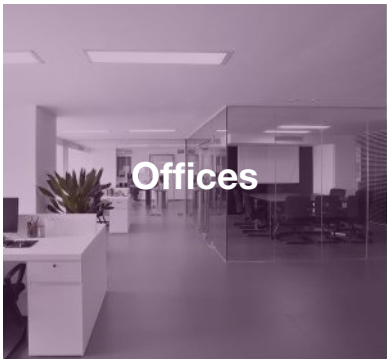


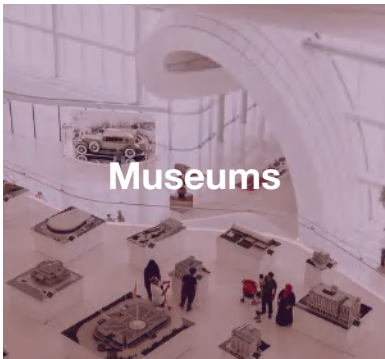
# Quiet operation

The sound made by the curtain motor is lower than 35dB. The operation can be such smooth and quiet without disturbing the occupants.

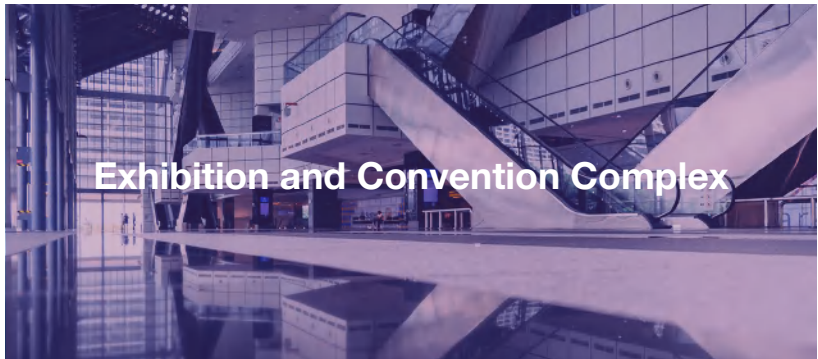


# Use cases





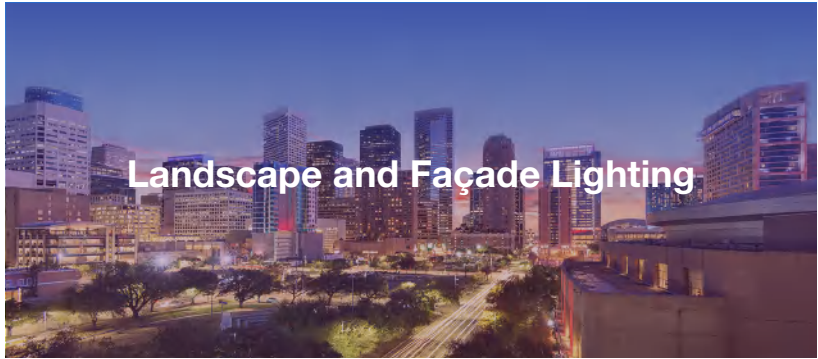
**Museums**



**Exhibition and Convention Complex**



**Industrial Plants**



**Landscape and Façade Lighting**



## Office

There are many ways that HDL automation solutions can benefit offices. For example, HDL system can automatically turn off lights, air-conditioners and other devices in an empty room to save energy. Centralized control a PC or mobile app will greatly improve the efficiency for property management.

What's more, automatic control can help create better ambience for employees by controlling lighting and ventilation. Working at a healthy and comfortable place will increase productivity.

If you are the landlord, installing smart systems in your office building can help you get a better deal. If you are the business owner, the increased productivity is worth choosing an automated office.

 Security





Lighting



Air conditioning

Shading





# Main Control Targets



Lighting



Temperature



Shading



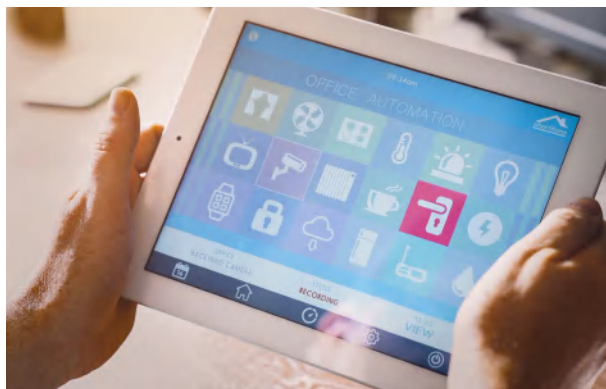
Ventilation



Safety & Security

## Easy control for administrative staff

When the office is automated with smart systems, we call it a smart office. Administrative staff are allowed to manage electrical devices and appliances on a PC or mobile devices. The simple and intuitive user interface will make their work more efficient.



## Scene control

With scene control, you can easily set the ambience for your ongoing activity. For example, when you need to use the projector in the meeting room, select the “Presentation Mode”, then the system will dim down the light or close the curtains while turning on the projector.



## Constant lighting

The system can keep the brightness at a constant range by automatically controlling lights and curtains. The occupants can focus on their work without being distracted while using the least electricity for lighting.

## Reduce chances of wasting energy

Integrating sensors and logic settings, HDL system can turn off lights, air-conditioners and other electrical devices in an unoccupied room. You are not going to waste energy even when you forget to turn them off.



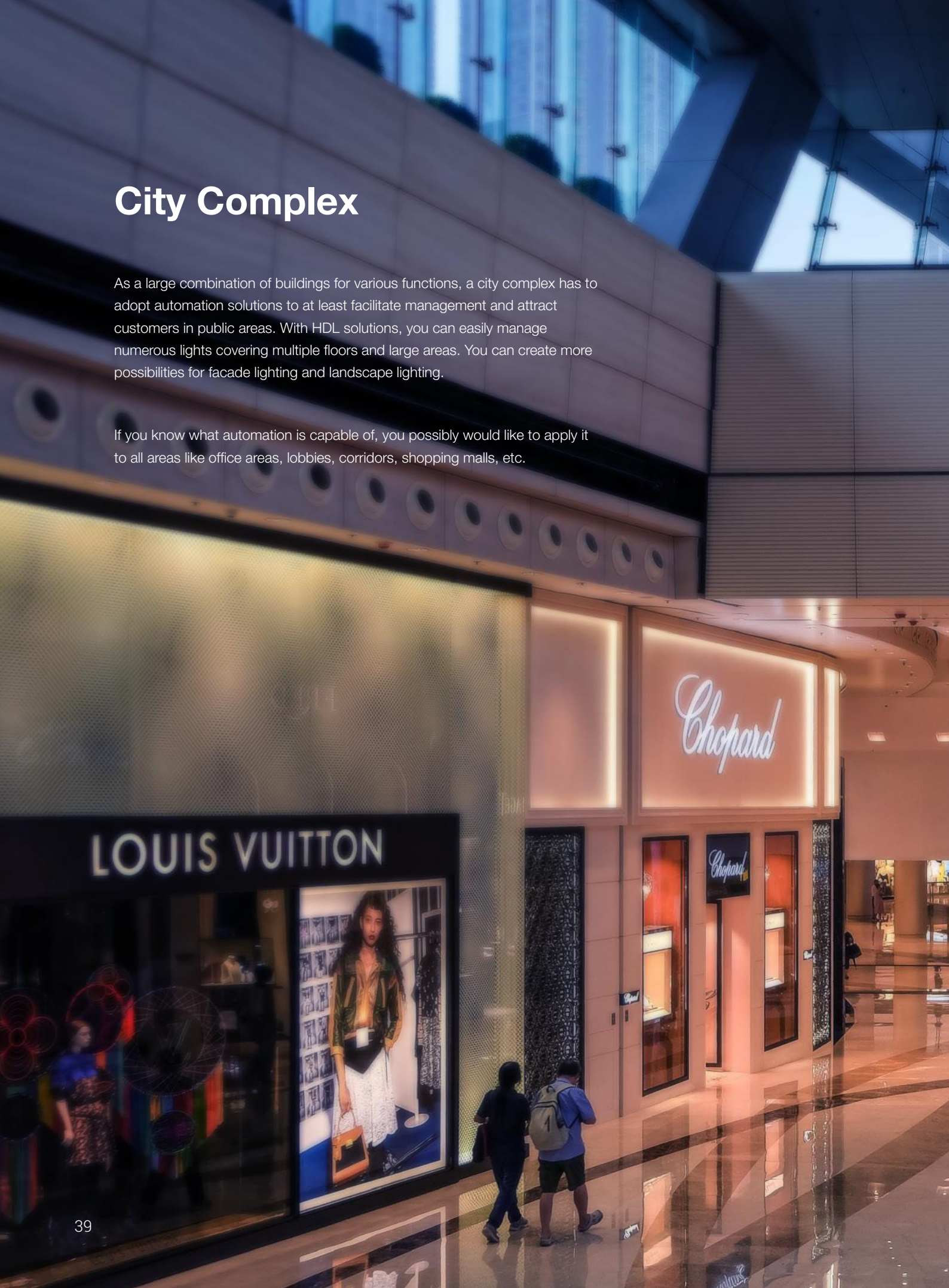
## Healthy air quality

Most offices have ventilation system to refresh the air. Smart systems can help detect air quality and trigger ventilation when it is needed and only when it is needed. It keeps the air healthy in the office. But the administrative staff don't need to bother.

# City Complex

As a large combination of buildings for various functions, a city complex has to adopt automation solutions to at least facilitate management and attract customers in public areas. With HDL solutions, you can easily manage numerous lights covering multiple floors and large areas. You can create more possibilities for facade lighting and landscape lighting.

If you know what automation is capable of, you possibly would like to apply it to all areas like office areas, lobbies, corridors, shopping malls, etc.





CHAUMET

FRED



# Main Control Targets



Lighting



Temperature



Shading



Audio & Visual Media

## Centralized control for large areas

The building manager can control all devices in the control room, or with a mobile device anywhere. You can easily navigate by rooms and floors, directly control a single device or multiple ones by one touch or click. The manager doesn't have to go to each floor or room. This will greatly improve the management efficiency.



## Quickly create the right ambience settings

Quickly control all needed devices for different scenarios in the city complex by pressing one button. For example, select the Business Hour Mode, you will have background music, LED lights, HVAC system and curtains ready at the right status. Select New Year Mode for lighting effects of the New Year's Day.



## Turn off unnecessary lights

In public areas like corridors, the system can turn off some lights to save energy when it's been empty for a given period of time. When one enters the place, it can turn on more lights.



## Use more natural light and less electricity

With lux sensors installed, the system knows the brightness level of the building. It can open curtains or blinds to let in as much as light as possible before it switch on the lighting devices, keeping the brightness level at a comfortable level while using as least as electricity as possible.

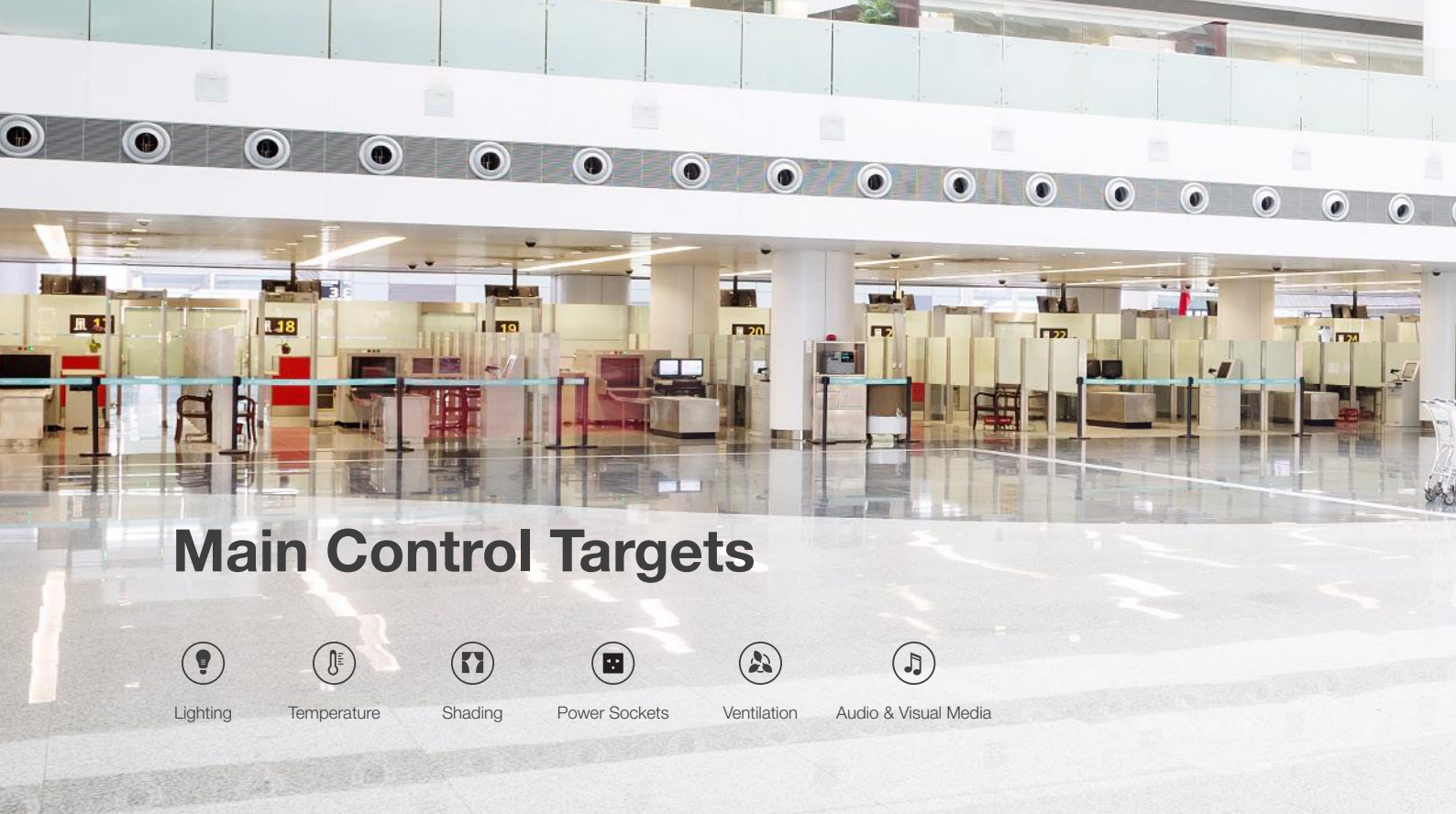


# Transportation Hub

Modern transportation hubs like airports and train stations are paying more attention to building automation, because automation can simplify the management for their mega buildings, reduce manpower, save energy and even make the terminal building or station building a better place for passengers and other occupants.







# Main Control Targets



Lighting



Temperature



Shading



Power Sockets



Ventilation



Audio & Visual Media

## Centralized control

HDL allows management staff to intuitively control lights, HVAC system, shading and background music system for the station building with a PC in the control room, or anywhere with an iPad. This approach can also apply to other areas such as cargo warehouses.



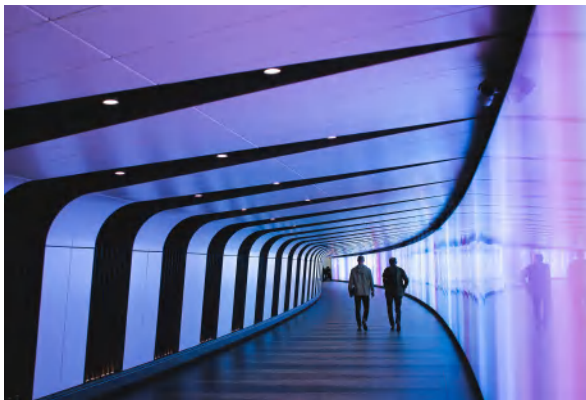
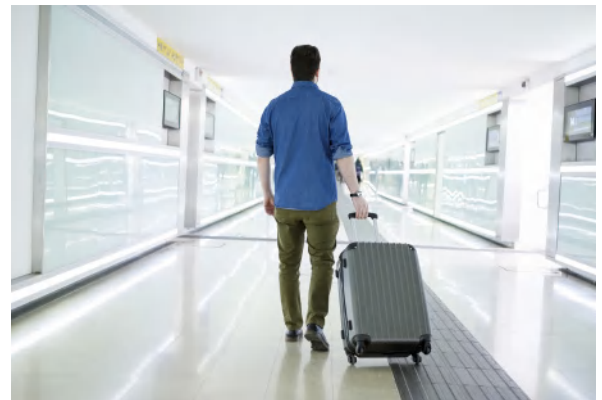
## Make use of natural light

HDL solution can keep the lounge at a comfortable brightness level by integrating blinds and lighting devices. In the meantime, natural light is fully used to save energy. For example, the system will open curtains to let in light. But if the light is not bright enough when curtains are fully open, then it will switch on lighting devices.



## Turn off unnecessary lights

In public areas like corridors, the system can turn off some lights to save energy when it's been empty for a given period of time. When one enters the place, it can turn on more lights.



## Easy control for decorative lighting

Decorative lighting is commonly used in modern station buildings. Designers are turning airports into attractions by adopting all kinds of lighting effects. HDL smart system will make it easy to control the brightness, colors and color temperatures of lights. You can simply control lighting on a wall panel with intuitive UI.

# Hospitals

Although hospitals need to take the comfort of patients as the priority, they can still benefit from automation solutions. With smart systems installed, nurses, doctors or other hospital staff members can control electrical devices and appliances in a more convenient way. For example, the nurse can set the air-conditioner temperature of a room from the Nurse Station. What she needs to do is a click on the computer.





# Main Control Targets



Lighting



Temperature



Shading



Ventilation





## Efficient control of all rooms

As lights, air-conditioners and curtains are connected to smart systems, hospital staff members can control all these devices from the Nurse Station on a PC, or with an iPad on the go. This feature allows nurses to check room status and react in real-time. Just imagine, a nurse is able to set the temperature for a specific room with the iPad in her hands.

## Maximize energy efficiency

With motion sensors, corridors, staircases, and infrequently used areas can utilize on-demand activation of lighting and HVAC for maximum energy efficiency. HDL smart system also can take care of lighting for open areas such as the helicopter pads, gardens, outdoor parking lots, etc.



## Lighting with colors

RGB lighting could be applied to areas like activity rooms and gardens. With HDL solutions, it is easy to control lighting effects of colors. Hospital staff can select a specific color or a dynamic lighting effect on the wall panel or app. Decorate the hospital with colorful light, ease the pain of sickness.



# Sports Venue

For large buildings like sports venues with a huge number of devices, have a strong need for building automation for the control of lighting, AC and other devices. It is important when the devices meet the needs of holding a sports event or daily training while saving energy and reducing manpower costs.







# Main Control Targets



Lighting



Temperature



Shading



Ventilation





## Centralized control

An entire sports venue can unify its lighting channels into one centrally controlled system. The management staff can control lights, HVAC system, shading and background music of areas like swimming pool, track field and basketball court in the control room.

## Scene control

To quickly control the devices and appliances at the sports venues for particular occasions, the management staff can preset the scenes and activate it by pressing one button. For example, only the lights and other devices in the training area can be activated in a training mode. Commonly lighting scenes include Game Mode, Training Mode and Cleaning Mode.

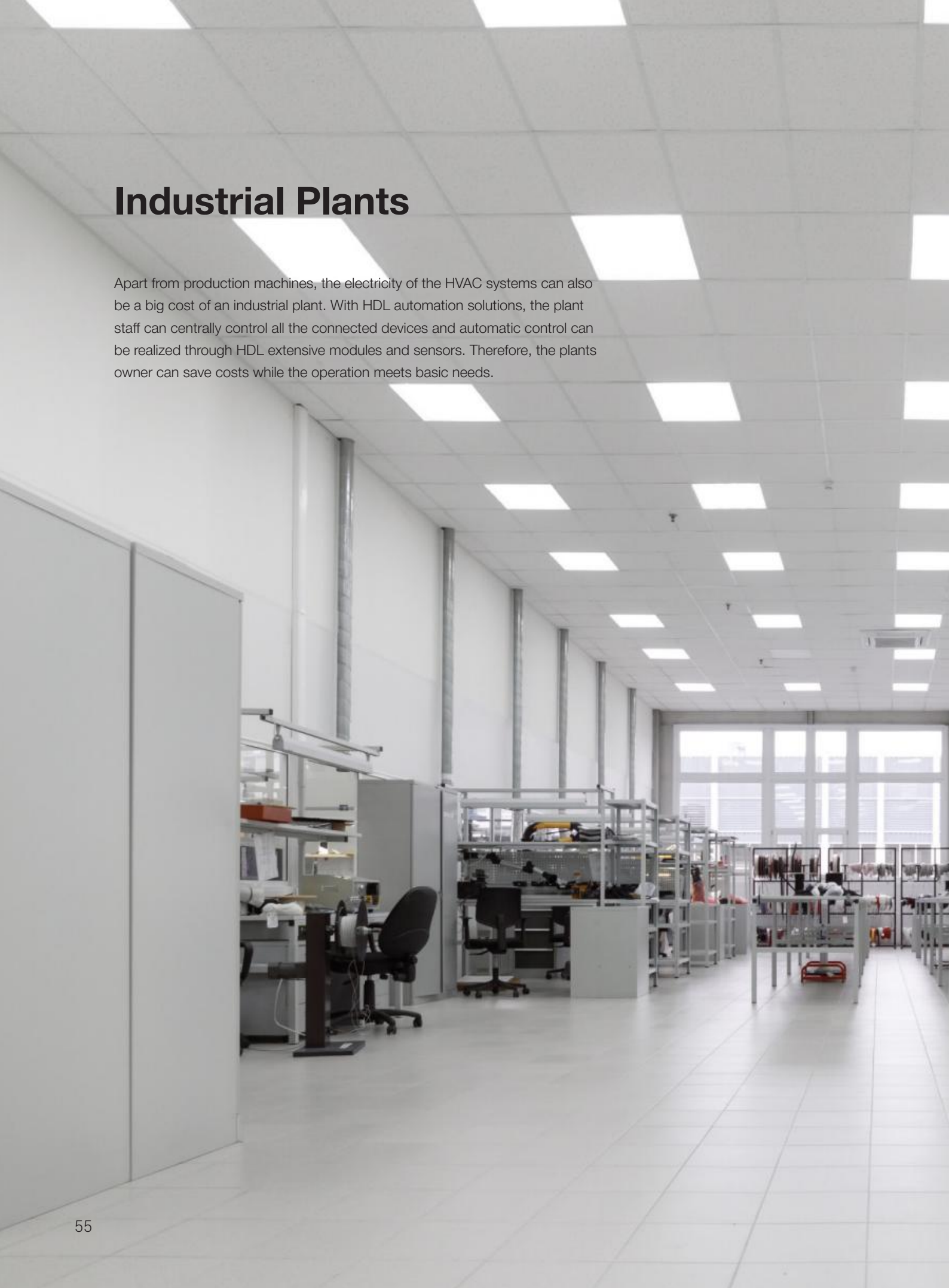


## Turn off unnecessary lights

In public areas like training venues, the system can turn off some lights to save energy when it's been empty for a given period of time. When one enters the place, it can turn on more lights.

# Industrial Plants

Apart from production machines, the electricity of the HVAC systems can also be a big cost of an industrial plant. With HDL automation solutions, the plant staff can centrally control all the connected devices and automatic control can be realized through HDL extensive modules and sensors. Therefore, the plants owner can save costs while the operation meets basic needs.





# Main Control Targets



Lighting



Temperature



Shading



Ventilation





## Centralized control

An entire plant, including offices and production plants, can realize centralized control of all automated elements. Users can easily control the connected devices on a PC, HDL wall panels or an iPad to improve working efficiency. The staff can turn off all the devices by pressing one button at the end of the work hour.

## Automatic control

For some areas like corridors and stairwells, the system will automatically switch off the lights to save energy. And all the connected devices can be activated when someone passes by.



## Energy management system

A monitoring system is necessary for a plant manager. With HDL PC based management software, the manager can monitor the electricity of the whole plants in real-time on the dashboard and get a report about the power consumption for optimizing resource allocation.

# School

The buildings like teaching buildings, laboratory buildings and the library in a school are scattered in a large area. To improve the management efficiency and promote the happiness of faculty and students, automation solutions are needed in a school. Meanwhile, the management staff can realize centralized control of lighting, HVAC and other devices to avoid the waste because of careless work.







# Main Control Targets



Lighting



Temperature



Shading



Ventilation





## Constant lighting

The bad lighting conditions in classrooms or libraries could be needlessly harming student's health and school performance. With HDL smart lighting solutions, the brightness in the classrooms can be kept at a comfort level while making full use of natural light to protect the occupant's eyesight.

## Scene control

Different modes were offered to meet different needs. The teachers and students can easily get the different scenes in the classroom on the panel, such as self-study mode, projection mode, etc.



## Automatic control according to occupancy

Automatic lighting control according to occupancy is commonly applied in buildings. For example, the system will automatically switch off the lights in the corridors of teaching buildings at weekend. But one passes the corridors, lights will be switched on again.

# Museums

A museum is an institution that cares for a collection of artifacts and other objects of artistic, cultural, historical, or scientific importance. It not only makes efforts to protect the exhibits but also show the exhibits to visitors. With commercial solutions, the managers can easily set the proper temperature for the exhibits and create the perfect atmosphere for visiting.







## Main Control Targets



Lighting



Temperature



Shading



Ventilation



Audio & Visual Media



## Centralized control

The managers can control the entire museum's lighting, HVAC, audio, and other connected devices through password-protected wall panel beside the exhibits, or centrally via a PC based management software.

## Automation for exhibit protection

It's an important job of protecting the exhibits at a museum and automation solutions could really help. For example, the museum can strictly control the lighting feature and flexibly adjust the color temperature on a PC to make sure the visitors see all the details while reducing damage.



## Display effect

According to different conditions, the lighting effect can be different to better highlight the exhibits. For example, for different exhibits like wood carvings, artwork and pottery, the museum can select the various light color temperature for the perfect effect.



# Exhibition and Convention Complex

With a good flow of people and large areas, an exhibition and convention complex has a high demand for high-intensity lighting and excellent HVAC systems to guarantee the exhibition going well. Therefore, it's important to automated an exhibition center for centralized control, automatic control, etc.





# Main Control Targets



Lighting



Temperature



Shading



Power Sockets



Ventilation



Audio & Visual Media





## Centralized control

The managers can control all the lighting, HVAC, audio, and other connected devices of the entire exhibition center on a PC. For example, he/she can quickly turn on all the devices of a simple area or the whole hall at opening time to improve efficiency.

## Automatic control

Quickly control all needed devices for different scenarios in the exhibition center by pressing one button. For example, select the Closing Time Mode, you will have background music, LED lights and HVAC system for reminding the visitors and exhibitors.



## Energy management system

To ensure the operations of an exhibition and convention complex, it's crucial that the manager can monitor all the devices centrally. On HDL management software, the manager can monitor the electricity of the whole hall in real-time for safety and get a graphical report about the power consumption for saving energy.

# Landscape and Façade Lighting

Landscape Lighting is not just for lighting but also for decoration. The system can automatically switch the lights for the sidewalk, green belts, parks, etc. according to the lux level to meet the need for outdoor lighting. It also graces the city by brightening all the buildings and at night.





# Main Control Targets



Lighting



Temperature



Shading



Water Pumps





## Scenes control

Preset scenes could be activated for special occasions. For example, a Romance Mode can be preset in the square for Valentine's Day. The passersby can enjoy the beautiful lighting show on a special night.

## Timing control

The system can automatically turn on the lights for maximum efficiency. For example, on the hour, all the lights and fountains will be on at night for the tourist's sightseeing.



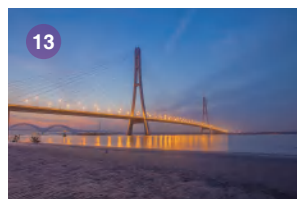
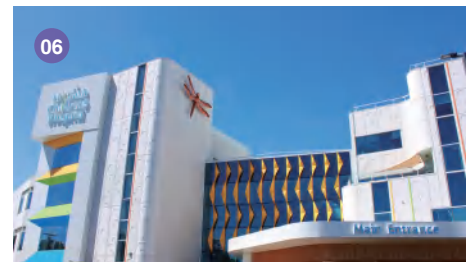
## Safety

To ensure the safety and performance effect, in the event of a bulb or lighting channel malfunctions, the system manager will receive an alert message when unusual conditions detected.

# HDL Projects

01. Australian Institute of Architects Melbourne, Australia
02. The Aldar Headquarters Building, Dubai
03. Sanya Phoenix International Airport, China
04. Dubai International Airport
05. BMW Welt, Germany
06. The Helan Horse Culture Museum, China
07. Monash Children's Hospital, Australia
08. Voith Turbo Factory, Shanghai
09. Shanghai Jing'an Sport Center
10. NU Sentral & 1 Sentrum, Kuala Lumpur, Malaysia
11. Guangzhou Parc Central Plaza
12. South China University of Technology, China
13. Nanjing No.3 Yangtze River Bridge, China
14. Yellow Crane Tower Wuhan, China





# Australian Institute of Architects Melbourne, Australia

Located in the center of Melbourne's bustling CBD, the Australian Institute of Architects (AIA) building known as 41X was developed to accommodate the AIA headquarters. This environmental responsibility was achieved jointly through an eco-friendly design, and the integration of countless HDL KNX DALI gateways, relay modules, motion sensors, and switches.

Used to control the entirety of the building's lighting system, the HDL KNX system ensures that lighting is only used when necessary. To control the lighting intensity and further increase system efficiency, ambient light sensors control dimming levels to create an optimized visual experience.



lighting



AC



Sensor



wall panel



## The Aldar Headquarters Building, Dubai

The HDL Dubai team have installed automation solutions into what can only be described as one of the most spectacular buildings in the Middle East. Named as the world's 'Best Futuristic Design' the Aldar headquarters building covers an area of 61,900 square meters, and has been designed to make use of 'Golden Ratio' which has been used in many of history's greatest buildings.

Full HDL automation solutions were installed into all the building's offices and communal areas. One panel is enough for an office. Besides, the system will automatically adjust the lighting according to actual conditions. With a mixture of dimmers, relays, sensors, and panels, the Aldar building is now not only environmentally responsible but incredibly energy efficient.



lighting



AC



CCTV



wall panel

# Sanya Phoenix International Airport, China

Sanya Phoenix International Airport is the main traffic line in domestic, covering an area of 463.32 hectares. HDL Buspro intelligent control system was installed in freight center, parking complex, domestic terminal and international terminal of this airport. With the help of HDL logic modules, the system will automatically control lights according to the actual occupancy. What's more, the staff can monitor the status of all lights in the control center.



lighting



phone



iPad



wall panel





# Dubai International Airport

Airports demand rock solid systems which are utterly reliable and dependable. Dubai International Airport is one of the important midway stations in the Middle East. That's why HDL automation solutions were selected to be installed into the baggage handling area, CCTV monitoring office, and the meeting rooms in terminals one, two, and three of Dubai International Airport.

Delivering full lighting control, HDL engineers installed a host of dimmers, Dali modules, and DMX scene controllers to meet the exacting requirements set forth by the project management company. The staff can directly control all the lights through HDL wall panels, which brought great convenience to their work.



lighting



AC



music



wall panel



# BMW Welt, Germany

Located in Germany, BMW Welt has a Teen Center Hall which is divided into two stories with a total area of 460 square meters, showcasing automotive products of BMW at different stages.



lighting



wall panel



Sensor



scene control

Car Model Showroom of BMW Welt applied the automation system. It can create a fancy performance effect through the changes of sound and light, and bring the visitors superior visual and audio experience. Besides, With HDL-MSO4 sensor the lights in the lounge, corridors and other public areas will turn on automatically when the system detects human presence, and gradually go out when people leave.





## The Helan Horse Culture Museum, China

The Horse Culture Museum, which designed by famous lighting designer Mr. Gao Feng and his team, was mainly to show the ancient relics of Chinese horse culture and the manual carriages from European craftsmen.

There are six lighting areas in the museum. The team designs different lighting effects based on the differences of cultural relics, thus highlighting the sense of culture and history at large. HDL automation control system makes the lighting control of the museum much easier. Apart from controlling multiple lights and switching scenes on one panel, staff members can also use their phones to control the lighting, which greatly improves the management efficiency for the museum.



lighting



phone



iPad



wall panel

# Monash Children's Hospital, Australia

With the new 230-bed hospital built specifically to cater to the children and families of Victoria, particular care was taken to ensure that a warm, friendly, and welcoming environment was maintained throughout the building.

A key element in creating this sense of wellbeing was the installation of HDL KNX lighting solutions. As illumination is critical in shaping how a room is perceived, iAutomation, HDL partner sought to imbue each area with an atmosphere conducive to relaxation and healing. This substantial lighting project demonstrates how advanced automated lighting functions are pivotal to the everyday performance and appearance of modern health-care facilities.



lighting



wall panel



scene control







## Voith Turbo Factory, Shanghai

Voith Turbo is a subsidiary of Voith AC in Shanghai, whose factory was installed HDL intelligent lighting systems to achieve the intelligent control of all lights in the factory and office. Users can easily control the lights by HDL wall panels or iPad. Different modes were offered to meet different needs. There are 30% energy use be reduced with easy-in-install automation system.



lighting



phone



iPad



wall panel



# Shanghai Jing'an Sport Center

HDL intelligent control system was applied in this center. With the logic modules, the system can automatically turn on the lights according to the actual occupancy. And the staff can directly control all lights in the control center. What's more, they can also control the lights by HDL wall panels, which was helpful to their work.



lighting



wall panel





## NU Sentral & 1 Sentrum, Kuala Lumpur, Malaysia

NU Sentral & 1 Sentrum is an exclusive urban center built around Malaysia's largest transit hub, offering global connectivity, excellent investment opportunities, business convenience and an international lifestyle. The HDL-KNX/EIB building automation system was applied in 4-floor basement, 7-floor shopping mall, and 27-floor office. This gave the end user total control of over 6000 channels and their lighting loads.



lighting



wall panel

# Guangzhou Parc Central Plaza

Guangzhou Parc Central Plaza is a “double carps-type” building, with a total construction area is 110,000 square meters, including two floors above ground and three floors underground. HDL intelligent lighting control system was installed in all public areas of this center and the center manager can easily control the system by HDL wall panels.



lighting



wall panel





# South China University of Technology, China

With an area of 3,910,000 square meters, South China University of Technology is a university with a long history and profound culture and also a key university affiliated to the Ministry of Education.



lighting



AC



music



shading



scene contro



wall panel

The EMBA classroom of SCUT is fully automated with HDL Buspro to realize central control. All the lighting, air conditioners, curtains, projectors, sound, and other devices can be control on one platform and different scenes can be presented according to requirements by panels. The Buspro system with its characteristics of convenience and efficiency to some extent help optimize teaching results of EMBA classrooms.

# Nanjing No.3 Yangtze River Bridge, China

Nanjing No.3 Yangtze River Bridge is an important part of the mainline GZ55 from Shanghai to Chengdu. HDL Buspro intelligent control system was used to automate the landscape illumination of this bridge. The system can automatically adjust the lights according to the calendar. For example, lights will turn on and change colors automatically at dusk and festivals. Besides, the lighting can also create different atmospheres according to the characteristics of the four seasons, and the dreamlike lighting effect completely changes the traditional impression of bridge lighting.



lighting



wall panel





## Yellow Crane Tower Wuhan, China

Established in 223 AD, the Yellow Crane Tower is a national 5A-level attraction with a rich cultural and artistic heritage. HDL designed a special intelligent lighting solution based on the external light environment of the Yellow Crane Tower during the day and night.

In this project, HDL intelligent control system can make a quantitative control towards the brightness of lights and set various scene modes. For example, at night, the system will automatically turn on all the lights to meet the requirement of the tourist's sightseeing.



lighting



Sensor



wall panel

# HDL<sup>®</sup>