HOUPER

Solution Provider
ELV General Contractor

HOUPIRAN

HOUPER GROUP

Houper group has started its business in the field of information and communication technology since 2003. Suggesting creative and cost-effective solutions and the use of up-to-date technologies has been our policy. After provision of engineering consulting services and management contracting experience for years, Pardisan Control Development Company was registered officially in February 2010 at the request of a number of registered employers; and this group was legally and extensively entered the competition market. Providing diverse services and meeting the employers' satisfaction has quickly accelerated the development of our group. Registration of Houpiran brand and implementation of large and international projects have promoted the sense of trust and proved the strength of our group to other international competitors. This structure has opened the way for commercial and engineering development of our company in other countries in our region. Perspectives and objectives of Houpiran are to gain significant share of the region's major market in emerging technologies and systems in information technology and automation; to achieve the goals of the company, we are trying to provide the best services, with a distinct quality, in accordance with all well-known standards. In the meantime, observance of all ethical and professional standards and communication boundaries has been registered among the goals of the group, in order to protect the interests of all project stakeholders and avoid provocation of any controversy.

"Occupational Health and Safety Assessment Series is a model that identifies and controls all occupational risks, safety, health, and the environmental considerations, and eliminates or decreases the risks with effective measures.

Advantages and Benefits of the Health Safety & Environment Management System (HSE-MS)

Identification of the risky conditions of the company's activities

Evaluating the risk associated with activities, products and services
Eliminating and reducing the risk associated with hazardous events and reducing and eliminating environmental aspects
Ensuring the execution and observance of laws and regulations
Determining the goals related to occupational and environmental safety and health
Making emergency preparations available
Increasing employee awareness and information systematically
Identifying and reducing the occupational safety, health risks and environmental negative impact
Systematic Management of Environmental Issues, Organization Safety and Health
Reducing the Cost of Accidents and Related Offenses
Demonstrating the Company's Commitment to Comply with Regulations and Laws in favor of Stakeholders and Government
Management of Resources, Energy and Waste
Ensuring the Safety of Employees and Stakeholders and Prevention of Occupational Diseases
Documenting Affairs and Actions
Investment Risk Control
Managing the Changes
And...."

(Occupational Health And Saftey Assessment Series)

OHSAS stands for Occupational Health and Safety Assessment Series. OHSAS-18001:1999 is the world standard of safety management and occupational health of ISO(International Standard Organization), and includes the requirements of safety management and occupational health which is designed for organizations to enable them to control the risks related to occupational safety and health, create a healthy and safe environment for work, and improve its performance. OHSAS 18001 came into force at the last year of 1990's. Many public and private organiza-

tions throughout the world confirmed that the execution of this standard enhanced the safety and the health of their workplace, and decreased considerably the waste costs. In fact, the goal for enforcing the execution of occupational safety and health is to make the workplace healthier and improve the organizations performance in the field of occupational safety and health through prevention of damages and risks.

Information and Communications Technology in Grades

Grading of companies is a scale to guarantee the quality and quantity of contractors and managers in provision of services and defending the rights of beneficiaries. In other words, the abilities of the companies, holders of accreditation certificate shall be evaluated by related executive authorities, based on the regulations of work order assignment to contractors. Obtaining grade is the first step in qualification of the companies interested in participation in public tenders and big projects. Depending on the type of activity, companies are categorized in five classes; the grade of each class is specified by a specific institution. Grading is a criteria for qualification, determined by the President Deputy Strategic Planning and Control for contractors and companies.

Grading of companies is performed for participation in projects, as a contractor, with below-mentioned features; the contractor's qualification is assessed and the duration of such grades could be renewed according to the provisions of regulations.

The project in which all or part of its financial resources are provided from government's general budgets.

The projects in which the financial resources and operation require government's support and guarantee at home or abroad.

Houpiran Brand

A brand could distinguish the products or services provided by a person or an organization from other products or services.

According to the Article 30 of Marking Law, the collective trademark and brand include

the followings:

a. Mark is any visible sign that can separate the products or services of natural and legal entities.

b. Collective trademark is a visible sign introduced under collective trademark in company registration declaration; it is used to identify the level of quality and geographical origin of the products and services provided by legal and natural entities who are the owner of the collective trademark.

c. Trademark is a name or title that introduces or specifies a legal or natural entity.

Certificates for Information and Communications Technology

All the companies are required to obtain the licenses for any consulting, supervision, design, production, installation, operation, development activities as well as supplying software, hardware, media, etc.

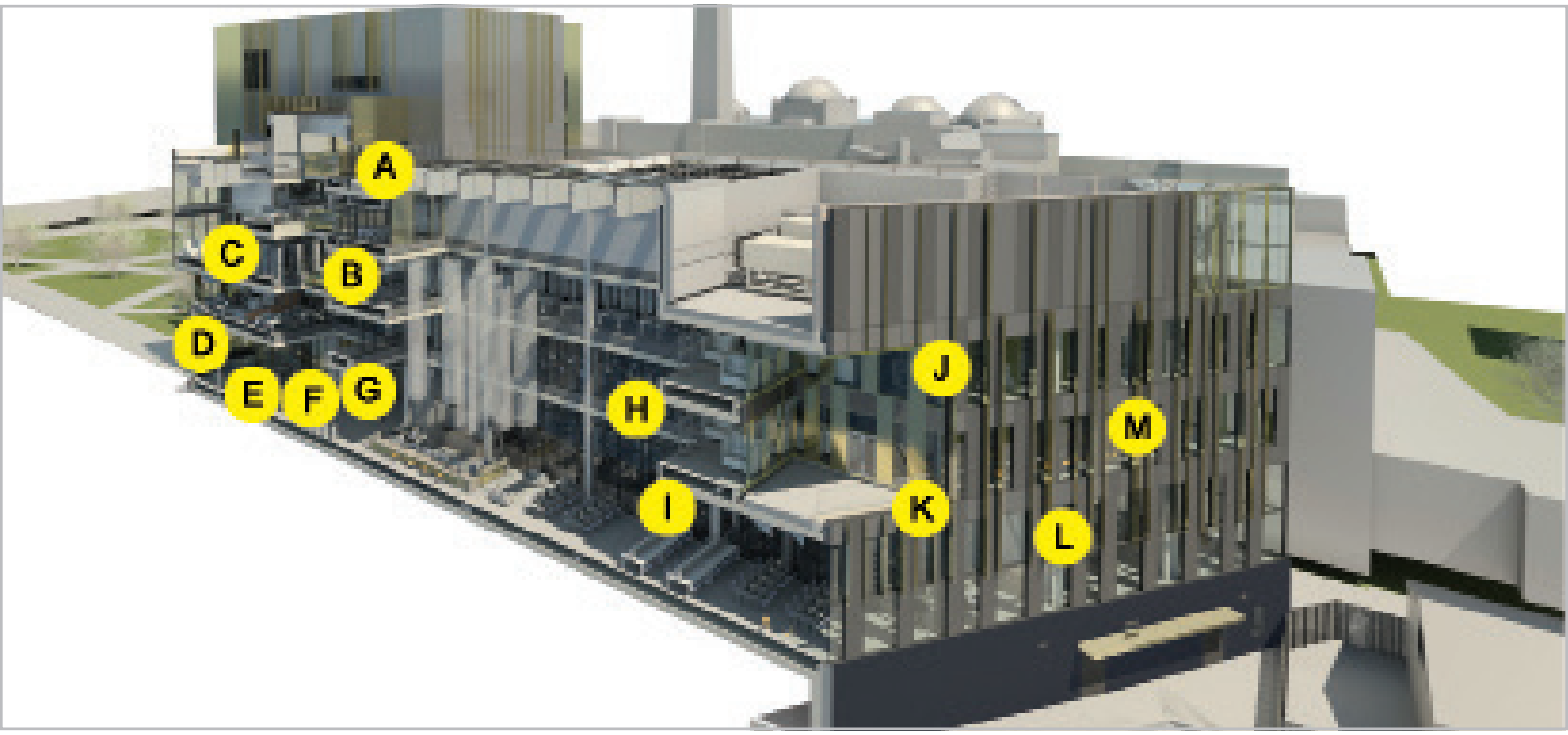
Commercial Card and Membership in Chamber of Commerce

According to the State customary rules, commercial card is a certificate that the holder of which, whether legal and natural entity, can do business in exportation and importation. The business can include order registration, customs clearance, importing from free zones, customs broking, exporting all legal commercial goods. Therefore, importing and exporting goods is not legal for all businessmen, except those who detain a commercial card. Importing from free zones, exporting authorized goods, issuing commercial visa, issuing certificate of origin, membership in Chamber of Commerce, relations with foreign businessmen, exchanging international-level commercial information, participation in national and international exhibitions at home or abroad, commercial importation and exportation of goods, customs broking, order registration and customs clearance are all features and benefits of commercial card.

HOUPIRAN

سیستم کنترل تردد و دسترسی / Access Control System
نظام التحكم فى الوصول / Система контроля доступа
Giriş kontrol sistemi

One of the danger zones, infiltration and security failure in various places is the public access to the main entries, such as doors and windows. The access control systems control and the access to places by different technologies. Providing specific solutions to enhance and automate the security, and achieving sustainable security is guaranteed by Houpiran with the help of the access control system. With the help of technology used in access control systems, it is possible to manage more accurately the activities



A Optical infrared sensors are commonly used for detection of non-authorized penetration.

B All smart doors can be monitored and controlled with access control equipment.

C By integrating access control system and the fire alarm system, the emergency exit doors can be opened during fire.

D The door and window sensor monitors and reports the actual status of the door [Closed/ open].

E By integrating the access control and perimeter intrusion detection system, any intruder can be accurately identified and building security ensured.

F The mechanical keys are used to activate and deactivate the zones of intrusion detection system in the project.

G Using the access control system, it is possible to register employees, guests and people's exit and entry, using RFID technology, fingerprint biometrics.

H By integrating the access control system and video surveillance system, and using facial recognition technology, it is possible to allow specific people to enter, and have a strict monitoring of personnel performance.

I Glass break sensors are used to prevent penetration.

J By using the RFID on the Wi-Fi, the exact location of people and their stopping time can be examined in different locations.

K Using the magnetic lock, the building doors can be opened and closed on a specific schedule.

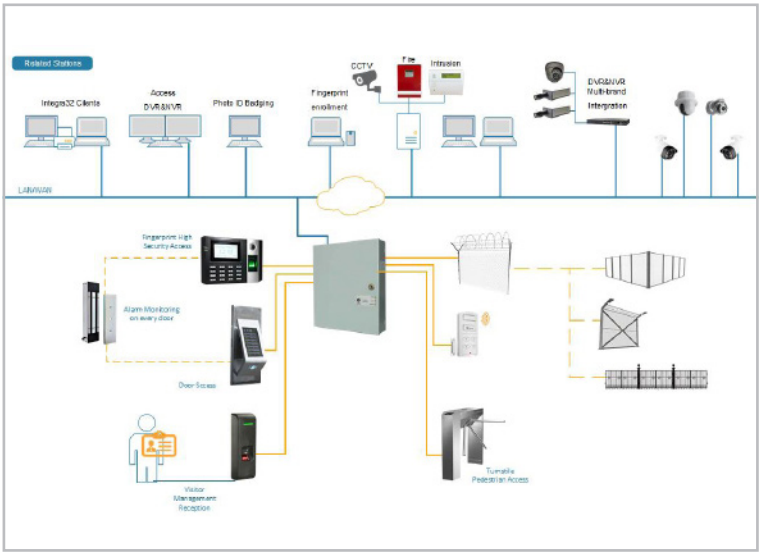
L Motion Detection Sensor, using multiple technologies and increased performance allows the detection of any living creature.

M The traffic and access control system in elevators allows only the entry of persons defined for the system into specific floors.

and monitor the performance of all equipment, personnel, and animals and provide the safety.

Traffic control systems operate on a permission to access a particular location. This is true for a variety of creatures. Access control is provided to maintain security or to control and monitor the flow and function of the living entities. The method of identification is based on biometric signs; identification is carried out based on the recognition of the members of a living creature such as the face, fingerprint, function, eye iris or body heat and movement type, or interface equipment such as entry codes, cards, and smart tags, and mobile phones. The importance of monitoring the entries, exits, or tracking individuals, as well as how to display information in a large volume, with plenty of interfaces, and in conjunction with other systems, have made the design of traffic control attractive and complex. The system will centrally integrate with

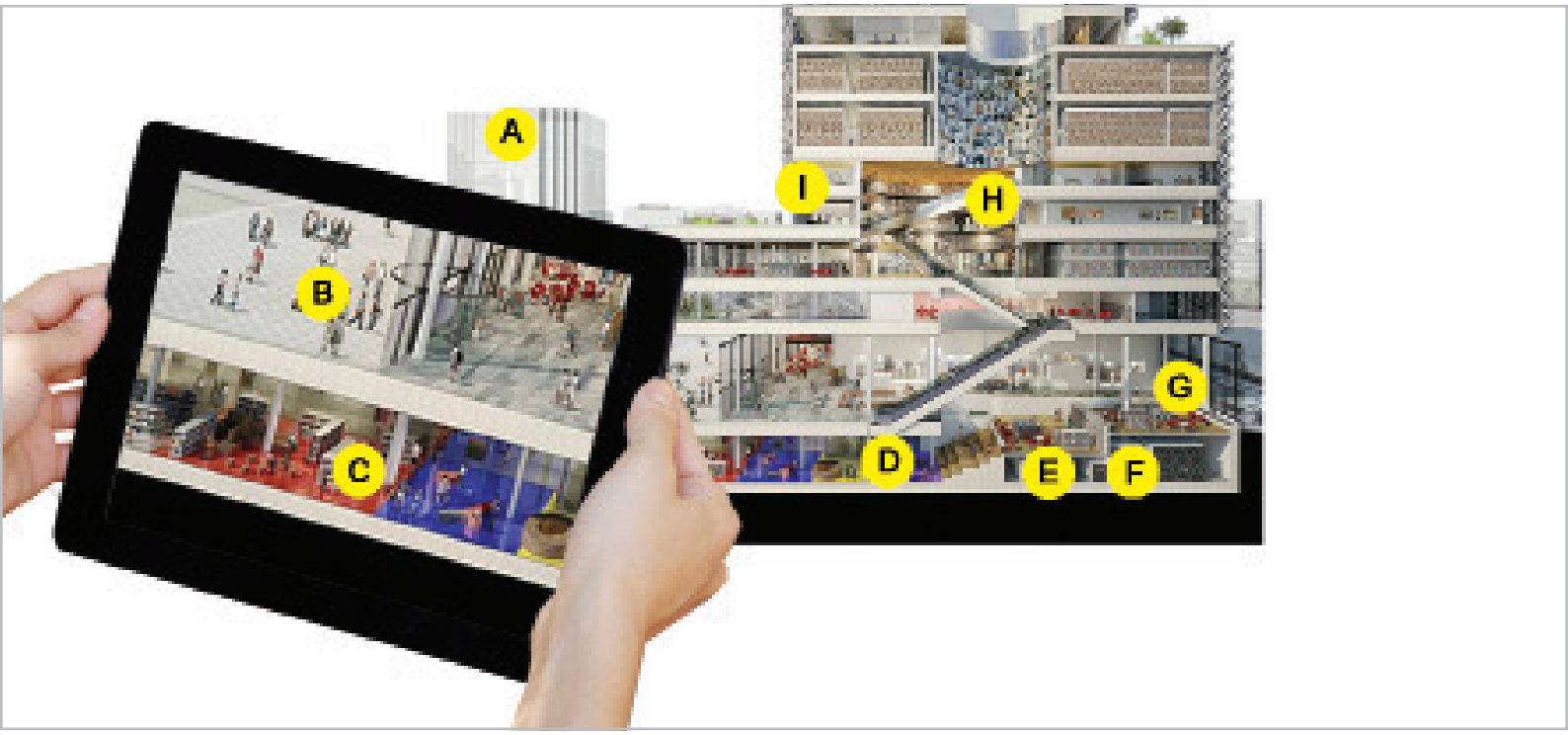
most intelligent systems. The central control will be able to observe all traffic and notify the reports or change the settings of this system. Industrial intrusion detection systems are also integrated with the access control system and work as a single system. This equipment includes a variety of devices able to detect glass breaking, strike, cutting and opening doors and windows, sensors for detection of any living thing or any movement.



HOUPIRAN

سیستم واقعیت افزوده / Augmented Reality
الواقع المعزز / Дополненная реальность
Arttırılmış gerçeklik

Augmented Reality Systems have grown considerably in the world today, and many companies and individuals around the world offer a variety of products in this field. Such products require a wider range of services. This system attempts to convey information and help guide people, by creating elements in the environment and creating a two-way interaction between users. This system facilitates the selection of various services for any individual. In fact, with the help of one of a smart device such as cellphone, tablet, mobile, display and computer, anyone can receive his required information fully processed. With



A "The number of vacant rooms in hotels, the required amount and booking service, the history of places and equipment, pieces of military memorabilia, guide to the museums and places of interest can be shown on three-dimensional displays or smartphones.

B With this system, any message and special promotions from nearby stores, any information in the complex and any service to be provided can be sent to smartphone users.

C This system can intelligently display the number of products in the store, and announce any drop in the price of any product in a specific way.

D The production of moving and 3D images of real people, places and creatures will bring joy and pleasure to visitors.

E The central server is used for storing, processing and disseminating the processed information on smartphone or displays embedded in the area.

F In this system, visitors are notified about all the special features and services of the complex, such as places of recreation, shops, restaurants and other services.

G This system can be used to translate any sign in any place into different languages, based on interaction with the user.

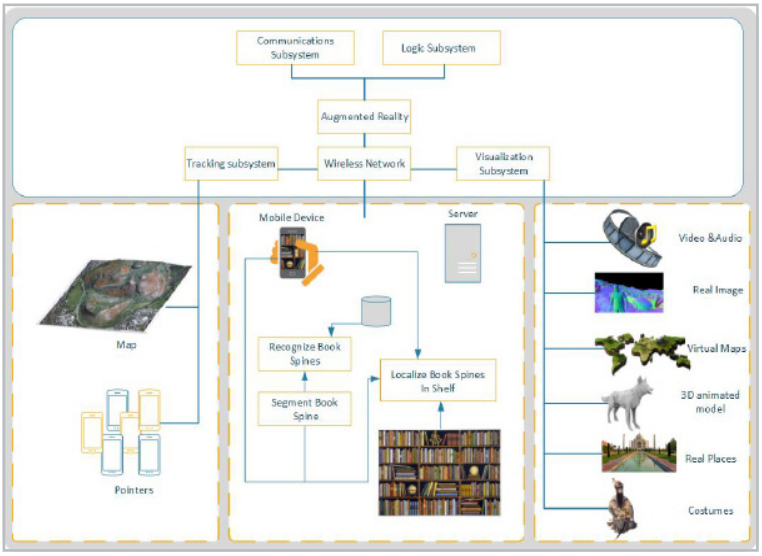
H By smartphone, visitors can be guided for routing and reaching destinations, and customers can have more time to visit.

I Customers can use smart mirrors to see matching clothing to fit their body in clothing and glasses stores, etc. and know about the colors and the available ones.

many years of experience in the field of augmented reality systems, Houpiran is committed to provide a different and effective service to its customers and create added value for the beneficiaries.

Augmented reality technology works based on receiving information, processing and displaying it to users, displaying specific patterns or places of interest. The production of hundreds of equipment has created a market for various services. By scanning any labels, or finding user's location with the help of and mobile phone and then analyzing by mobile processors, the augmented reality system display specific content and add some information to images. This content may be a guide for routing, accessing important information and telephone calls, or displaying historical information about part of a city or historical monument. Also, the augmented reality system can give some information about new products, special discounts or production dates to customers. In cloth stores, with the help of large screens and cameras and processors, this system is used to see if a cloth fit customer body or not. In museums and historic centers, visitor's satisfaction is improved by showing documentary films about the period in which

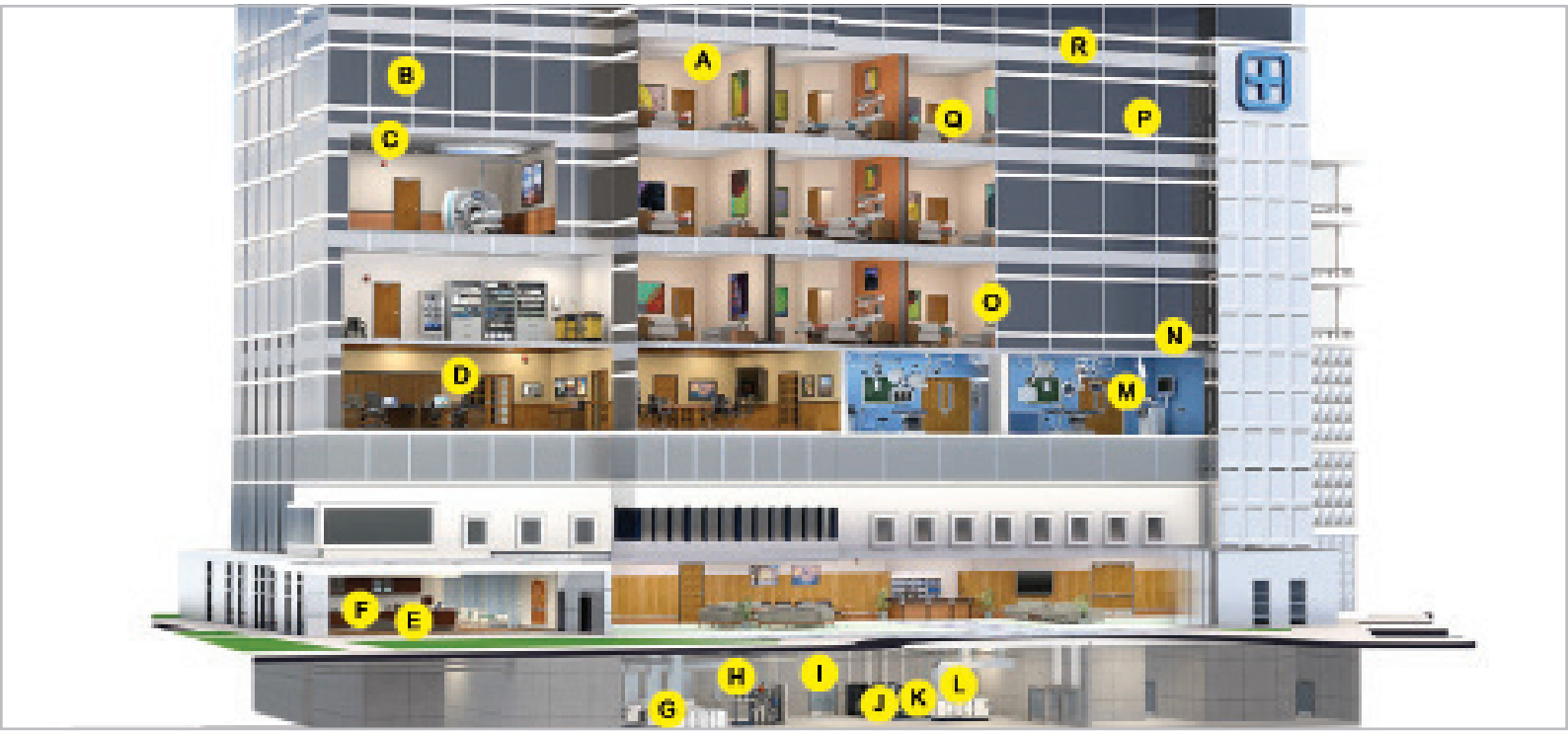
the monument is built and display of information in 3D glasses or mobile phones. Augmented reality has also been developed in the gaming industry. We can play games in a quasi-realistic atmosphere with the help of glasses and some equipment. Most of the reputable companies are now offering their products to customers in a virtual way. This system is used extensively in the analysis of online and live sports events, as well as educators and student's education.



HOUPIRAN

سیستم مدیریت ساختمان / Building Management System
نظام إدارة المبانی / Система управления зданием
Bina yönetim sistemi

Intelligent building management processes not only facilitate easier access to control most equipment, including lighting, audio and video equipment, mechanical equipment and installations, heating and cooling systems but also reduce energy, gas and water consumption. This system helps to facilitate the maintenance of equipment in the building. Today, by improving the performance of intelligent systems, the satisfaction of the beneficiaries has increased. It also had a significant impact on the improvement of the building decoration. Having mastered all the existing factors and subsystems and publishing dozens of articles, books and giving consulting services for hundreds of projects, Houpiran tries to improve the



A The amount of light required for any environment is set based on desired luminous flux.

B Frozen air conditioner coil is detected by the defrost sensor and the information is sent to the equipment.

C Depending on each space usage, the type of equipment and automatic damper of the air channel and motors is determined.

D Temperature sensors measure the exact number of this parameter and, if necessary, send the required commands to the air conditioning system for generation of warm or cold air.

E You can use this system to monitor and control the power consumption of all building equipment such as cooling equipment, chiller, elevators and other equipment.

F The energy consumption of all types of boards and feeders is separately monitored and reported; therefore, active and reactive load is examined and coordinated.

G In order to increase the lifecycle of the equipment, the time in which the pump, burner, chiller and boiler, cooling tower and other equipment are switched on and off is monitored.

H All collectors of mechanical rooms are monitored, and if needed, intelligent control scenarios are implemented.

I The oxygen production and pressure system is monitored and reported.

J Pump filters and their performance are monitored by the sensor.

K Taking into account building energy consumption, as well as the settings made in the mechanical room and lighting program, energy consumption is controlled and monitored for optimization purposes.

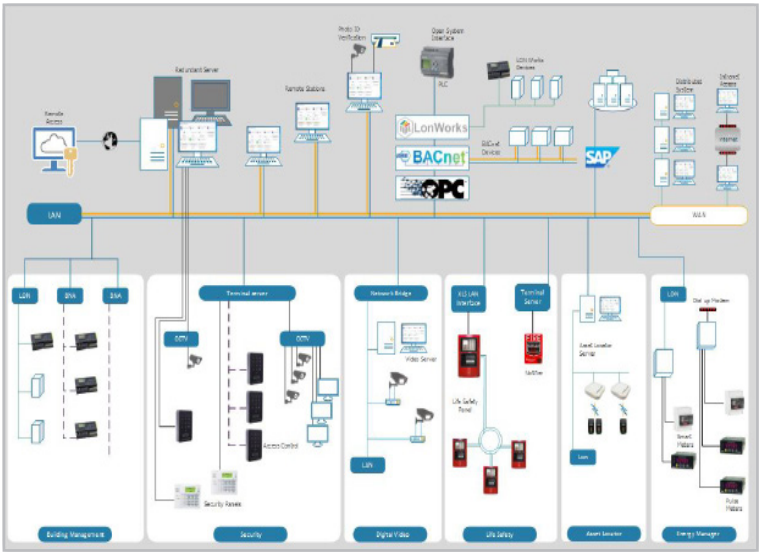
L Gas sensors measure and report the volume of hazardous gases, such as methane gas, refrigerant and industrial gases, or CO emissions gas.

M Positive air pressure control in a clean room, such as an operating room, and negative air pressure control in laboratories and a combination of the two to control smoke is very common.

N The calculations on the layout of field sensors of air handler unit, boilers, chillers, pumps, ducts, air washer, etc. and temperature, pressure and humidity sensors and automatic valves are carried out for better performance of systems.

level of knowledge of this system in our country.
Building management systems that are commonly known as BMS or BAS have an effective role in the performance of building equipment. Today, the existence of LAN-based communication lines let us link various layers of the system by high-level protocols on the network. With dozens of sensors, controllers, automatic valves, air dampers, thermostats, triggers in the field, the system collects information or perform control processes. Intelligent building systems use thousands of different functions and equations in accordance with the laws of physics, mechanics, and electronics to try to manage construction processes successfully. Also, the system analyzes the current and future status of weather by collecting and analyzing the satellite data. Therefore, it allows accurate control of critical conditions and climate change. The use of this equipment in clean rooms such as operating rooms, laboratories, assembly centers, etc., to control precisely the psychrometric parameters, including humidity, relative and absolute pressure, dew point, dry and wet-bulb temperature, and more. The features of this system include hundreds of specific uses in industrial, environmental, cultural heritage, administrative, commercial and military

buildings. Home automation or smart home is also used to automate the units of a building.



O The humidity sensor measures the exact amount of this parameter and, if necessary, issues the command to increase or decrease the amount of moisture.

P The smoke detection sensor in the air ducts of air handler unit examines the possibility of fire incident and the smoke control scenario.

Q Using the smart thermostat, the temperature of each environment is adjusted individually.

R Critical points for building plumbing are monitored by temperature and pressure sensors and, in case of any change, control scenarios are applied.

HOUPIRAN

سیستم دفع پرندگان / Bird Scare Technology
تكنولوجيا الطيور الخوف / Технология падающих птиц
Kuş Korkutması Teknolojisi

Birds and animals create a variety of problems for employers in industries and mines, transportation systems, airports and railways industries, museums and ancient centers, and production lines. Scaring birds from the intended area in accordance with environmental laws and without causing damage to humans and other living organisms that are under the care of these systems, using a variety of technologies and combinations, has led

A The harmless electronic lasers irritate and warn the birds, forcing them to seek safer environments.

B This equipment is selected for outdoor use, such as airports. This sound deterrent can cover large areas.

C In this method, fence netting prevents birds from entering gardens, buildings and other areas.

D In this method, by installing physical obstacles (bird spikes), the landing of birds in desired areas is prevented.

E The sculpture is a bird-scaring equipment that is easy to install, and a quick and cost-effective way for open areas to keep birds and other animals away.

F Quad copter is the best solution for bird repelling in challenging areas.

G In this method, by installing physical obstacles (bird spikes), the landing of birds in desired areas is prevented.

H In the ultrasonic method, high-frequency sound waves that are not audible by humans, are generated. This environmentally friendly technology is not harmful to birds.

to the design of a smart system. The system is designed to create animal-free places. Houpiran is committed to providing reliable systems to respected beneficiaries.

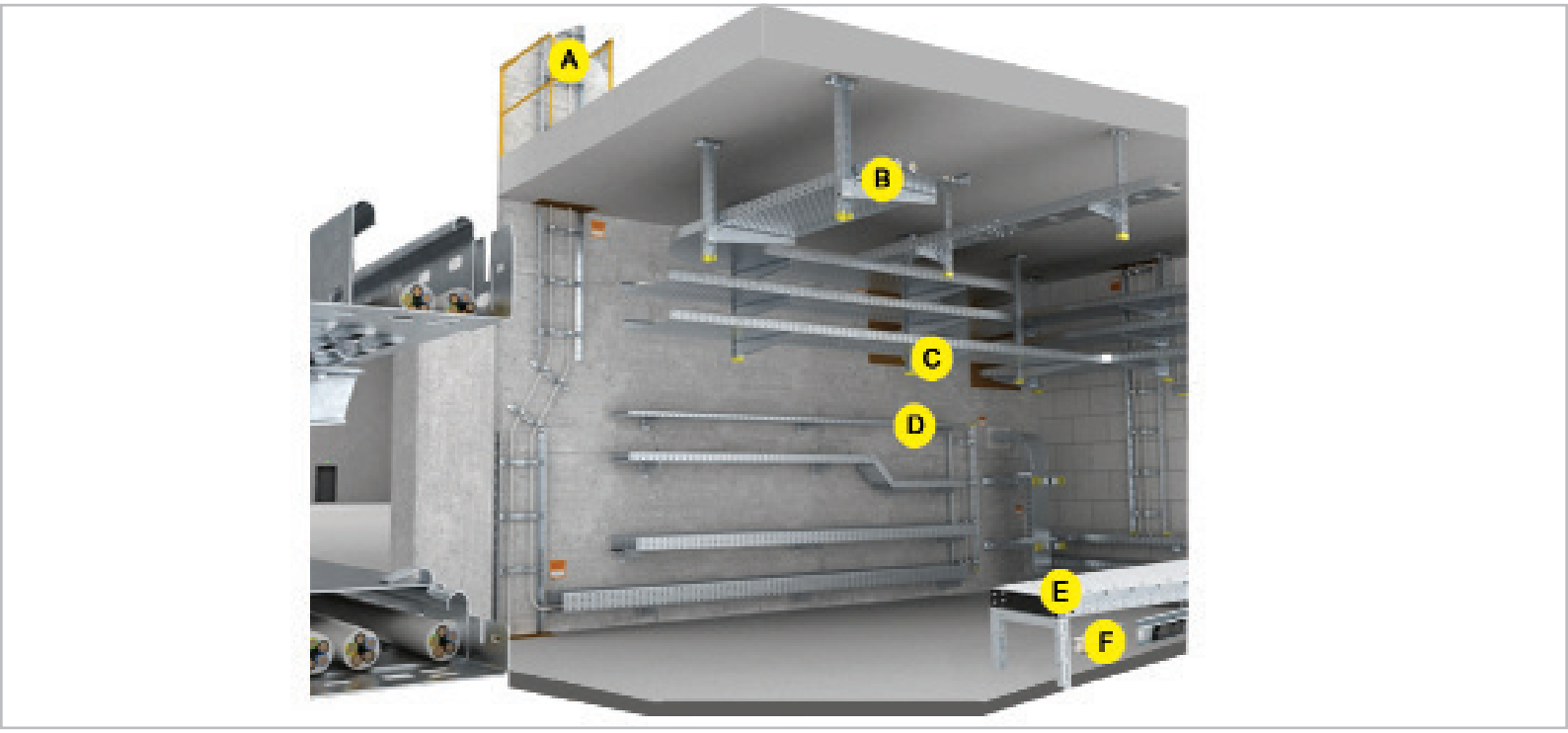
Pest birds and animals have imposed irreparable costs for different places, and the use of physical instruments such as fence has not worked properly. In designing birds and animals scaring systems, the type and technology of the selected system and the method of simulation of the installation of equipment is also of particular importance for the system's operation, in addition to the type of area and animal. Using hybrid systems and implementing them reduces always the risk of error. Considering the many ways in which this system is implemented, Houpiran is committed

to providing the optimal and effective proposal to employers. The audio frequencies in the hearing range of birds are used in order to eliminate pest birds; the production of invading birds' sounds and intruding light are a variety of management technologies to repel pest birds.

HOUPIRAN

سیستم سینی کشی کابل / CABLE TRAY
علبة الكابلات / КАБЕЛЬНЫЙ ЛОТОК
KABLO KANALI

All intelligent systems and all electrical and telecommunication equipment are required to be implemented according to standards. Considering the development of mentioned systems, increasing the volume and type of cable always facilitate the maintenance of these systems by arranging and numbering the cables according to international standards. A variety of support equipment could be used to protect the cables against electromagnetic radiation in different places. Houpiran is committed to the precise design and compliance with



A Cable ladders are used to lay cables and wires in a specific vertical path.

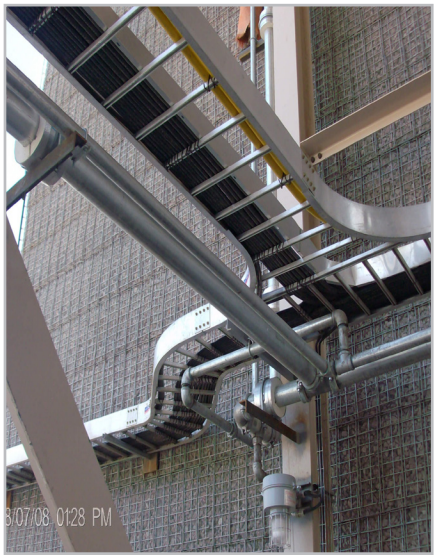
B It is used for cabling and routing in IDF chambers is with the false floor.

C Bus Duct is used to transfer high voltage power and reduce cable size and losses.

D In general, it is used for installation of low/high voltage cables, in which the maximum space for cables, high capacity and the speed of implementation are important factors.

E It is generally used for electrical and telecommunication applications with minimum heat generation. The main reason for choosing a simple cable tray (with cover) is the concern of protection against EMI / RFI for highly sensitive circuits.

F It is generally used for applications with medium heat generation.



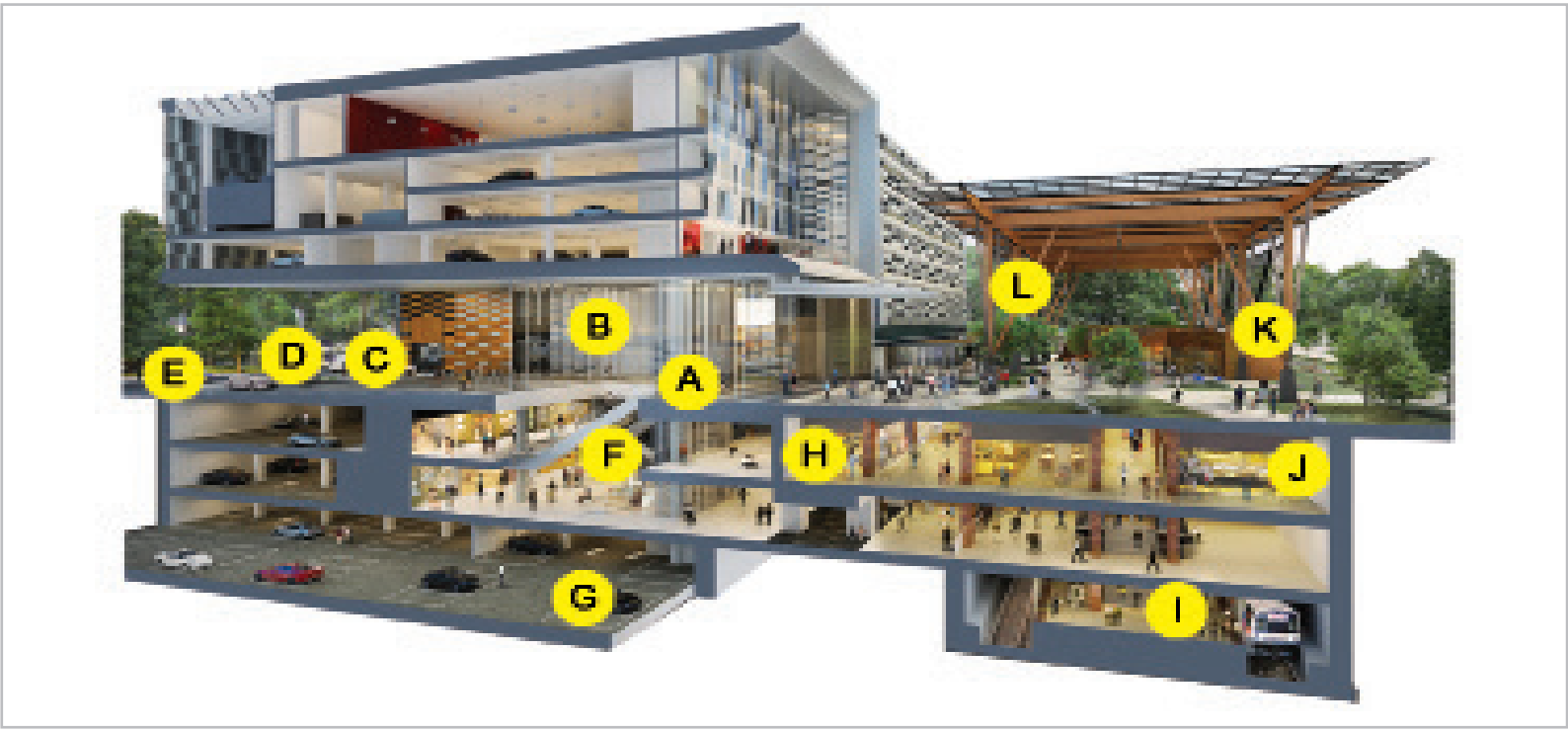
the standard of intelligent system infrastructure to improve beneficiaries' satisfaction.
The number of support and organizer equipment of telecommunication systems is high. Such equipment is manufactured and delivered based on the type of use and type of system. The installation of standard equipment for telecommunications systems has a direct impact on their proper functioning and life. At the same time, compliance with the cable encoding standards makes it easier to maintain cables. The requirements for designing these systems include: the use of trays with standard width and height, having noise-resistant coatings and the determination of the cable paths, as well as using methods for installing trays on the wall and roof, with the help of accurate load bearing calculations. Installing false floor, bearing the weight of racks and active or passive equipment, and the calculations of the false ceiling are very important for telecommunication rooms. Brackets are wide-

ly used to implement intelligent systems. Selecting inappropriate brackets dramatically reduces system performance. Also, the type and the material of such support equipment are different based on their use and performance in different places. Implementing ladders in buildings as well as connecting racks to each other in data centers is also very important considering the size of cables.

HOUPIRAN

دوربین مدار بسته / video survelance
المراقبة بالفيديو / видеонаблюдение
video izleme

Today, video surveillance systems are installed and used at various locations for various purposes. The image quality technology and image processing software have been dramatically developed. These systems are widely used today. The most specialized services in the design and implementation of video surveillance systems and mechanized analysis and processing of various image types in order to improve the security, correcting the performance of the production lines, increasing the order, completing the intelligent signaling in the transport industry, the automatic troubleshooting of video equipment, and facilitating the decision making in sporting event are provided by Houpiran.



A With the help of 3D simulations and artificial intelligence, accurate counting of any living being such as a person or animal and traffic analysis with low risk is possible and the obtained information is used to optimize decision-making or behavior control.

B Human face detection technology improves the service-giving process and the security by identifying people in various areas, without being affected by changing parameters on face and hair and the extraction of person profiles.

C Smart cameras can help us more than just a genius to make decisions based on systematic definitions, and alert users of high-risk behaviors of living beings.

D Providing images in harsh environments under high risk conditions such as explosion and high water pressure require the use of special video equipment such as EX cameras.

E The technology used in these cameras enables managers to perform real-time analysis, or specify the average speed and type of vehicle and obtain other exact information based on the need.

F With features such as horizontal, vertical rotations and zooming, the speed dome camera can cover a vast area, showing a wide range of details.

G By recognizing the parameters of vehicle number plates and recording in the database, the number plate reader camera facilitates the traffic or manges the entry and exit.

H Being hidden from the eyes of any living being, miniature cameras provide high quality images and sounds to enhance the security.

I Relative strength in outdoor space and under the wind and rain, protection against dust, and its integrated body make it easy to use them in harsh environmental conditions.

Video surveillance systems are categorized into two major technologies, including analog and networked equipment, and dozens of equipment have been developed as a link between these two groups. The technology of today's networked video surveillance systems will allow to create and transmit high-quality images. There has also been a significant increase in the processing capacity. The special-purpose software is used in the simulation for designing and finding the accurate layout of smart cameras, selecting the right lens, choosing image quality of the camera, positioning angles and height, specifying the bandwidth and storage space, and in general, providing a suitable design for installing equipment. The simulation can give us the point-to-point equations and the possibility to examine the image at least and can display sample images before installation. The type of compression and the quality of the image files and the way of lighting and the observance of the security provisions are finalized. Mastering intelligent software for analysis and processing of image and communication solutions, as well as special technologies such as thermal cameras, simulation, industrial and explosion protection, and integration with perimeter intrusion detection systems, radar, access control and management systems have made the designing of this system more special and fascinating.

J

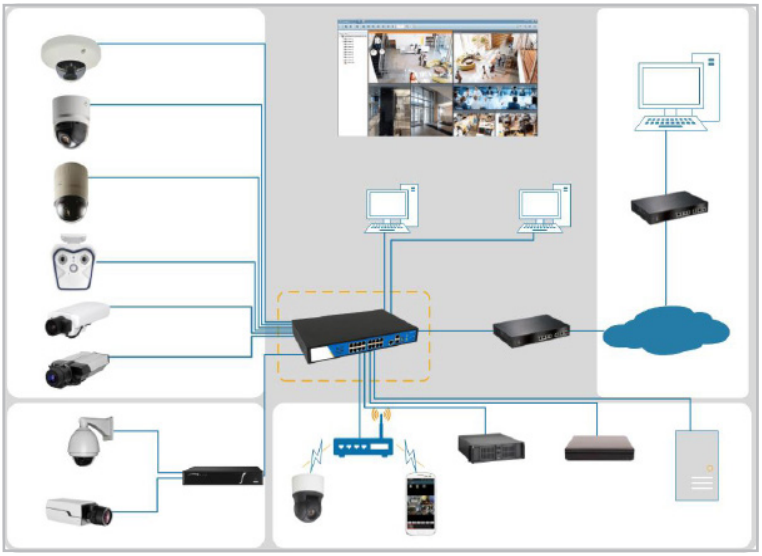
Analyzing the behavior of visitor in particular places, focusing on different subjects, and ultimately extracting accurate and precise information about the behavior of any living beings, will help managers to make decisions on different topics.

K

The requirements for providing an optimal image in outdoor spaces based on temperature, humidity and pressure have created environmental requirements in the equipment, and this model of camera will have the required strength to work under hot or cold conditions or special pressure.

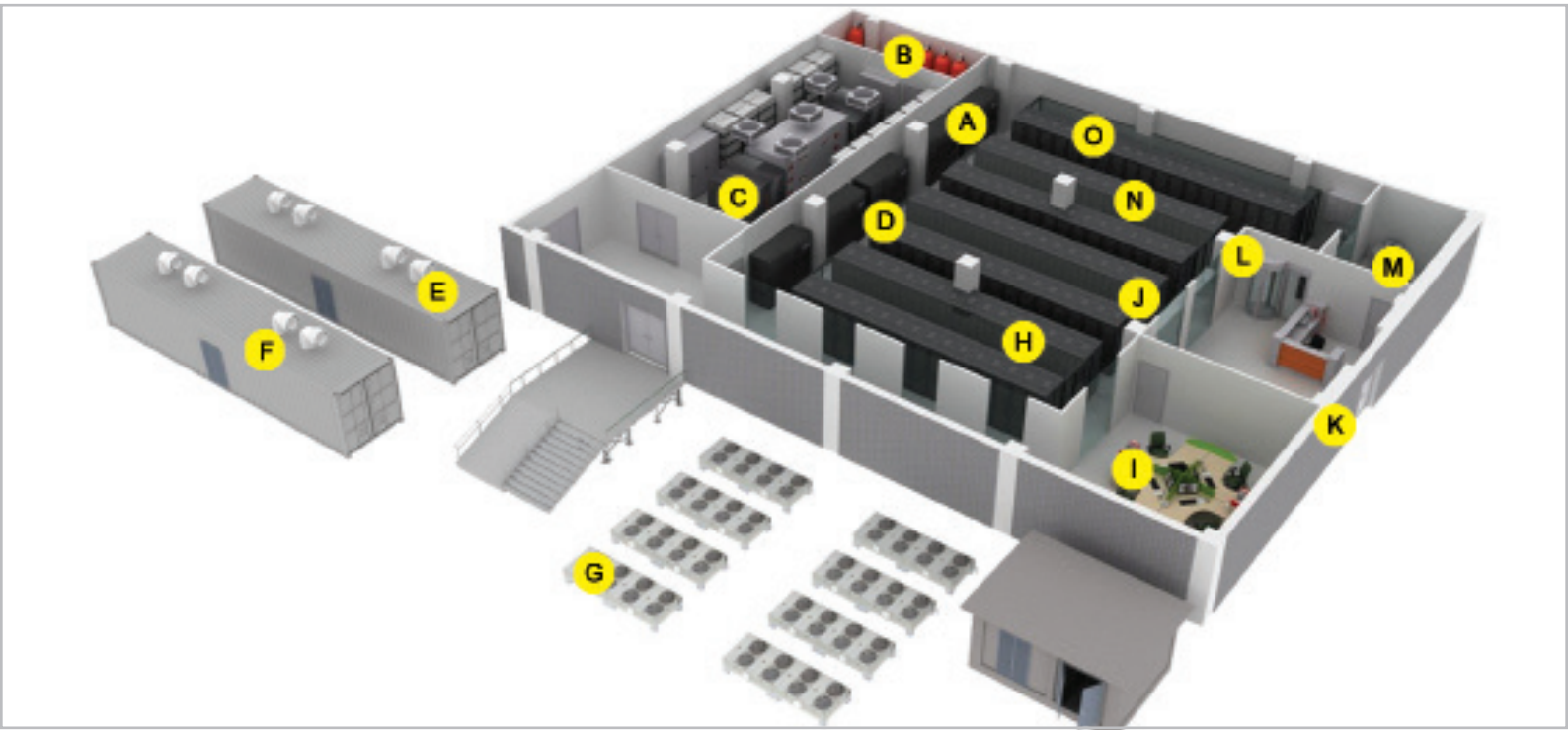
L

Providing perfect images based on the temperature of an object, with the minimum temperature of -273 ° C, removing barriers and compensating human vision limitations, and the lack of need for light has created a revolution in building security industry.



Data center / سیستم مرکز داده
Центр управления документами / مرکز التحکم فی الوثائق
Belge kontrol merkezi

Today, small and large data centers play a very important role in providing a variety of services to users and institutions. Data centers have been made to collect, process, display and integrate information and create diverse communications. Services provided on the network and internet platforms are created by servers in data centers. Data centers respond to clients' needs with high-speed communication platforms either privately or publicly. Server fields and recorders are the most important network equipment in the datacenter. Observing the different standards in architecture, facilities and electrical engineering, and providing technical requirements are an indication of the importance of these sites. Houpiran is committed to pro-



A One of the most important issues in a data center is uninterrupted power services. Therefore, an uninterruptible power system (UPS) as an indispensable alternative is required due to various reasons for power outages.

B Considering the special nature of the data center space and its equipment, a specially designed gas fire extinguishing system is required.

C It is essential to create a backup system to increase the reliability level as well as uninterrupted operation.

D Air conditioning systems are very important for maintaining the temperature, humidity and pressure in standard level at data center in order to protect the equipment and provide security.

E Taking into account all the equipment and according to the degree of reliability, the power transmission lines are designed to transmit the required power.

F Today, mobile data center containers have been developed in a variety of applications.

G The data center cooling system with intelligent control is of great importance.

H Serverfarm to process information and the required scenarios

I Positioning data center monitoring and maintenance technicians

J Data center cooling systems are designed and implemented through commonly used rack rooms method.

K Considering the importance of information and network security, it is essential to apply restriction on entry and exit, and control people.

L The monitoring system is designed to monitor the people movement in indoor space and enhance security.

M Management and monitoring system for operating systems, databases and applications

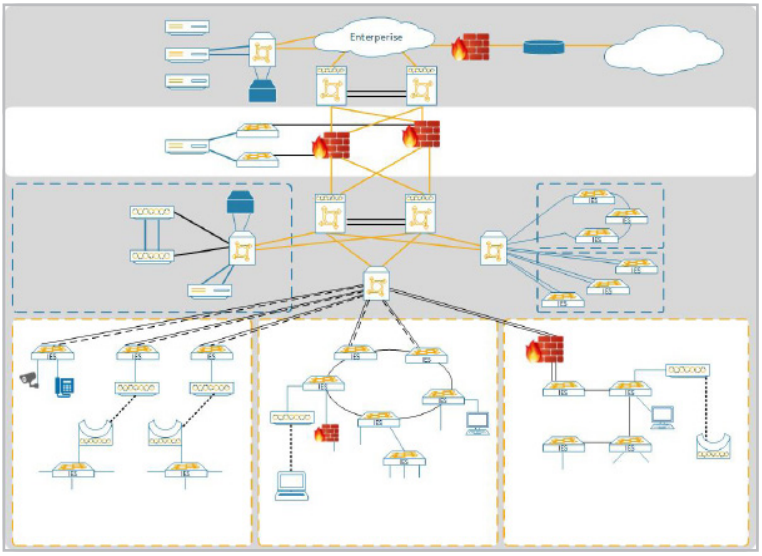
N Racks and passive equipment are used to install active components and to connect the equipment with fiber optic cable.

O Network-attached Storage (NAS) device to store information at high speed and reliability

viding standard services based on the needs of beneficiaries in data centers.

The data center is referred to as an enclosed area with special facilities and requirements. This place is built according to international standards and based on organizational needs. Considering the desired purpose, the data center is made in different qualities. In each class of quality, data centers can provide certain services, and strict compliance with standards will double the customer's trust and increase costs in the upper classes. Within the data centers, there are a large number of racks with special arrangements. Active equipment including servers, recorders, routers and core layer switches are placed inside the racks. This equipment will have high energy losses because of the around-the-clock services. The continuity of these services is the cornerstone of a data center. Therefore, the right implementation of cooling systems for various places, such as cooling systems for floor, rack or glass walls, is very important. The logical implementation of infrastructures, including false ceilings, trays and ladders, the numbering and ordering of cables, and the way electricity panels and electrical supply are implemented is very important in these places. All active

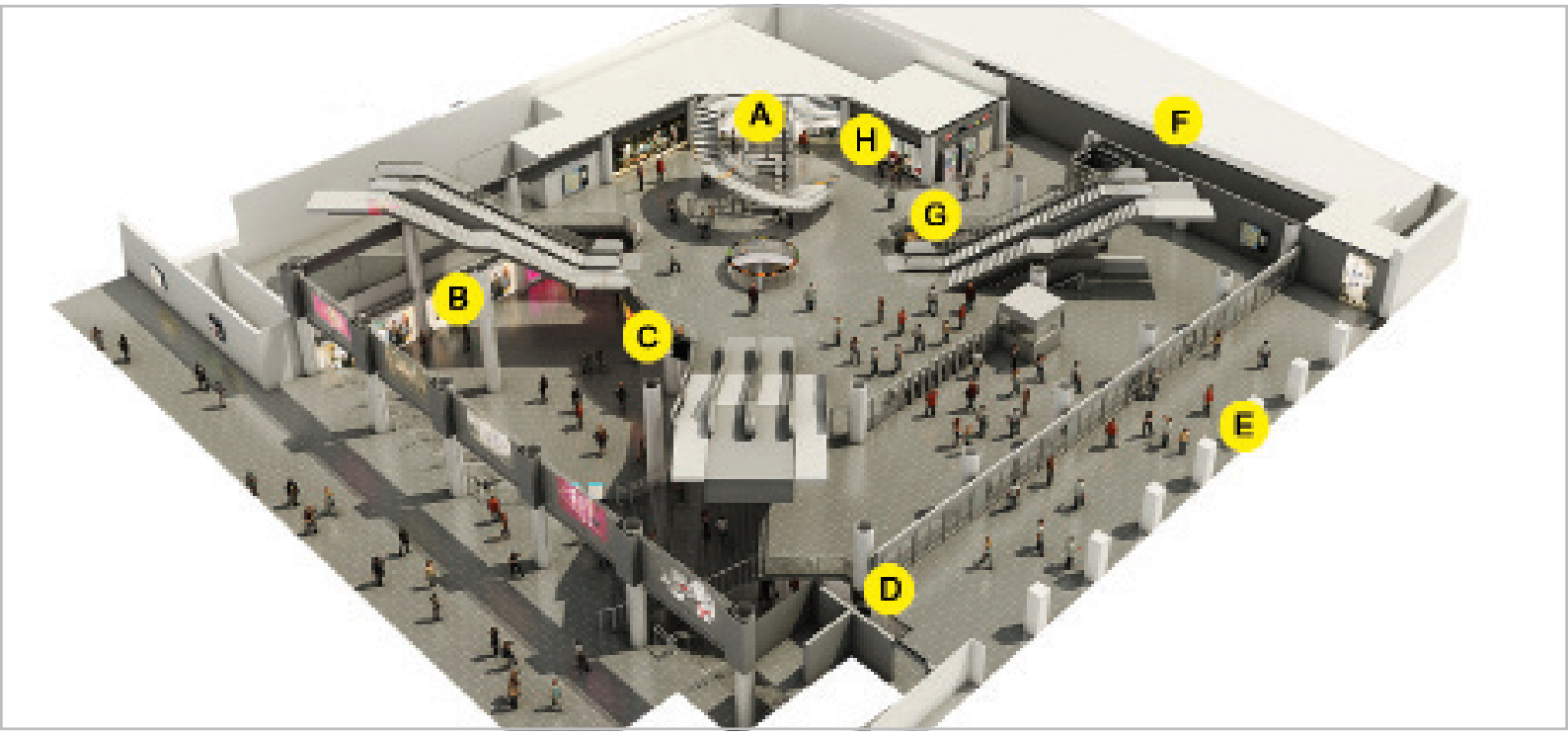
equipment in data centers is fed by an uninterrupted power supply (UPS), and most of the electrical equipment of data centers are implemented in the redundant method. The necessary measures are taken to monitor all communication lines and the status of equipment, both active and passive, cooling and electricity systems. Providing security for servers and accessing from different locations are performed by the specialists located in separate rooms and inside the data center. Security, sustainability, speed, and support are the most important needs of customers.



HOUPIRAN

Digital Signage / سیستم تبلیغات هوشمند
Цифровые вывески / الإشارات الرقمية
Dijital sinyal

Variety of multiple solutions to create value added in different sectors of the economy and the significant improvement in sales and services has become a knowledge and management policy in the world. In the meantime, intelligent advertising, with the help of technology-based systems and equipment, has had a significant impact on the development of this science in different parts of the world. With the help of business and marketing consultants and benefiting from vast branches of management knowledge, and mastering targeted and intelligent advertising, Houpiran is trying to provide



A Providing advertisements in the elevator cabs for messaging and intelligent service delivery.

B The system utilizes a space-free space between classes to provide visitors with services, advertising, and content, as well as the ability to integrate with other systems such as Augmented Reality.

C A wall display is used to display promotional messages in stores.

D The door and window sensor monitors and reports the actual status of the door [Closed/ open].

E The kiosk is a private guide for providing smart guidance services, including routing, bank payment, unit numbers, parking services, urban intelligent services, discounts, management software, virtual services, etc.

F With the ability to display dynamic images, static signage brings beauty to the environment by showing advertisement and reducing costs.

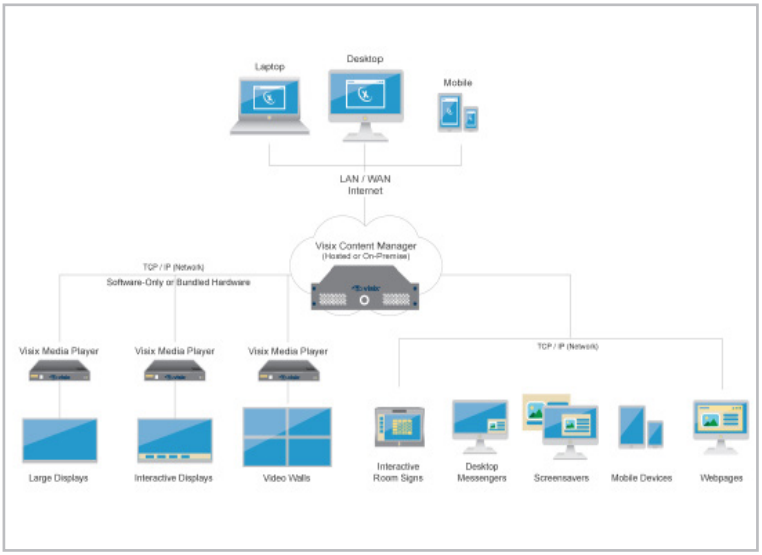
G The use of a mirror display in the bathroom is very common to create added value through advertising and displaying interesting things.

H The use of non-conventional instrument transformer (NCIT) has a growing trend in digital posts. NCIT function by measuring the changes in the optical performance of the fibers in the presence of electric and magnetic fields.

up-to-date services in this area.

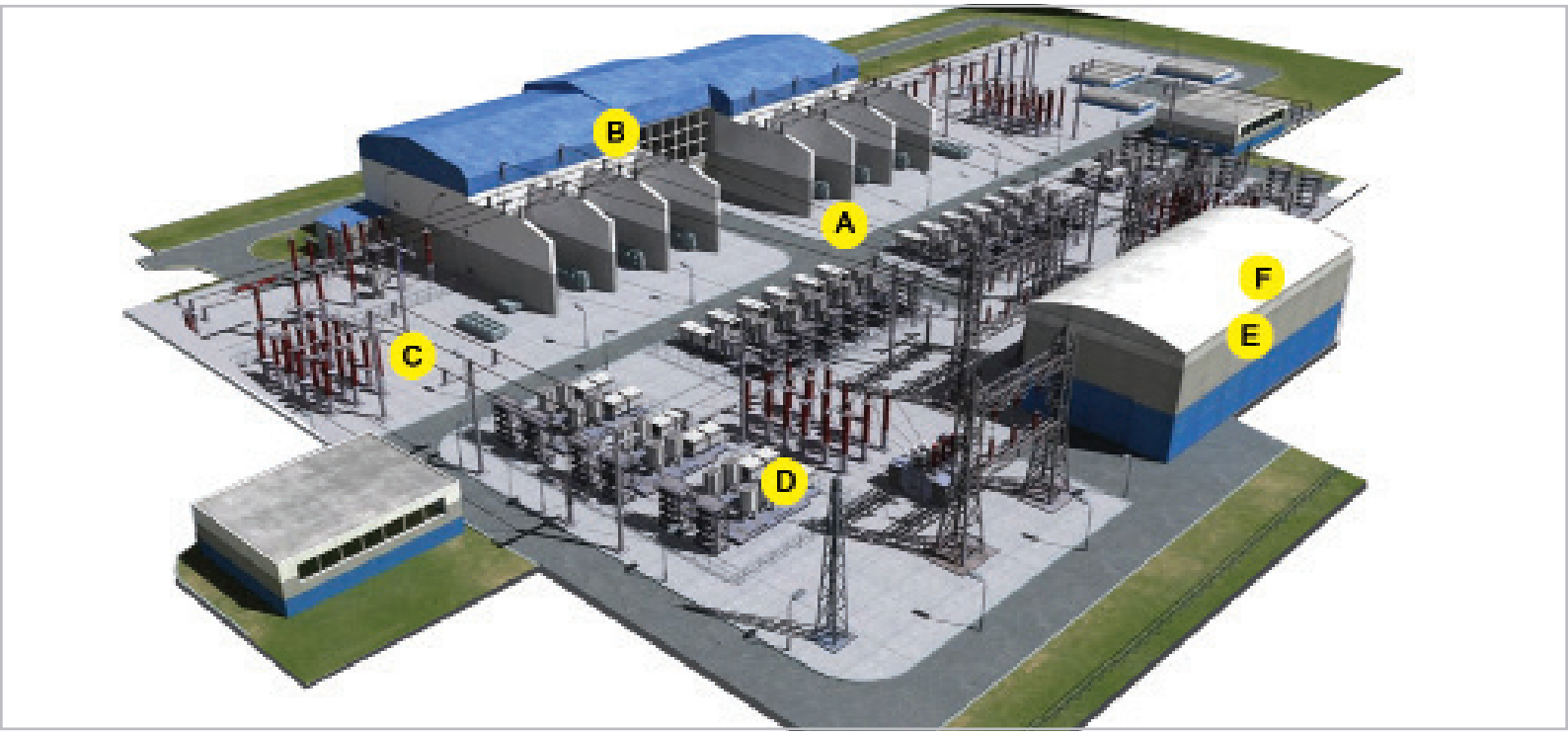
With the development of various technologies in the field of analysis, processing, information, touch screens, high-speed networks the use of various hardware has made it possible to offer a wide range of suggestions to the customers for implementing and designing intelligent systems for advertising. Today, with the help of the above equipment, former methods of decoration and announcement are going to be outdated. New ways of advertising with the help of ultra-slim and touch-screen monitors, mini-computers, and artificial intelligence patterns has enhanced users' satisfaction. The special combination of art and architecture with smart communication increases the importance and complexity of this issue. Also, creating two-way interactions in order to attract new customers, moving toward 3D effects and above, combining art and the environment on the scene, and the use of augmented reality have made it desirable and economical to achieve the goals of em-

ployers, and create intermittently added value without dependence on hardware changes. With the help of various customer's behavior analysis and processing systems, video surveillance system, access control system, RFID, augmented reality system, and AI management software we can outline the best option and choice for targeted advertising, and offer more sales to beneficiaries.



سیستم ایستگاه انتقال دیجیتال / Distributed Control System
نظام التحكم بالتوزيع / Распределенная система управления
Dağıtılmış Kontrol Sistemi

Industrial automation is the intelligent control of an industrial planned process to produce a particular product. In industrial automation, all functions are analyzed by processors and the required instructions are issued to keep the balance of process. The task of sensors is to monitor the system and the function of actuators is to issue the necessary commands in the process. In distributed control system (DCS), controllers and processors are installed in different locations and monitored from a central processor, while FCS receives and sends information through the industrial bus; such information is analyzed and monitored by the central analyzer.



A “The integration units collect the signal from the equipment and the transducer and then send the signal to the process bus.

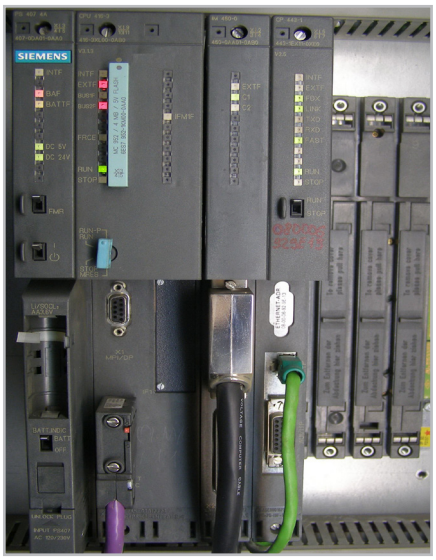
B Digital post uses a process bus to both control the station’s equipment, and increase flexibility by activating digital devices directly connected to each other.

C “The use of non-conventional instrument transformer (NCIT) has a growing trend in digital posts. NCIT function by measuring the changes in the optical performance of the fibers in the presence of electric and magnetic fields.

D “The main equipment of the station (protective relays, tap changers, CTs, PTs, etc.) as intelligent electronic devices can act at a higher level of control.

E Two bus buses connecting intelligent electronic equipment and the control station, transfer data.

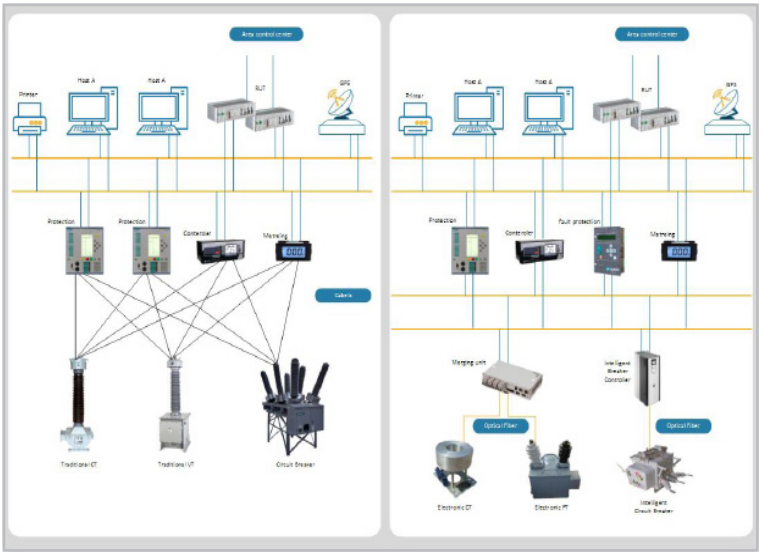
F One of the most important digital post equipment is the GPS clock. With this clock, you can schedule different equipment and obtain accurate reports from the system.



Houpiran is committed to providing cost-effective designs to beneficiaries in the industrial sector.

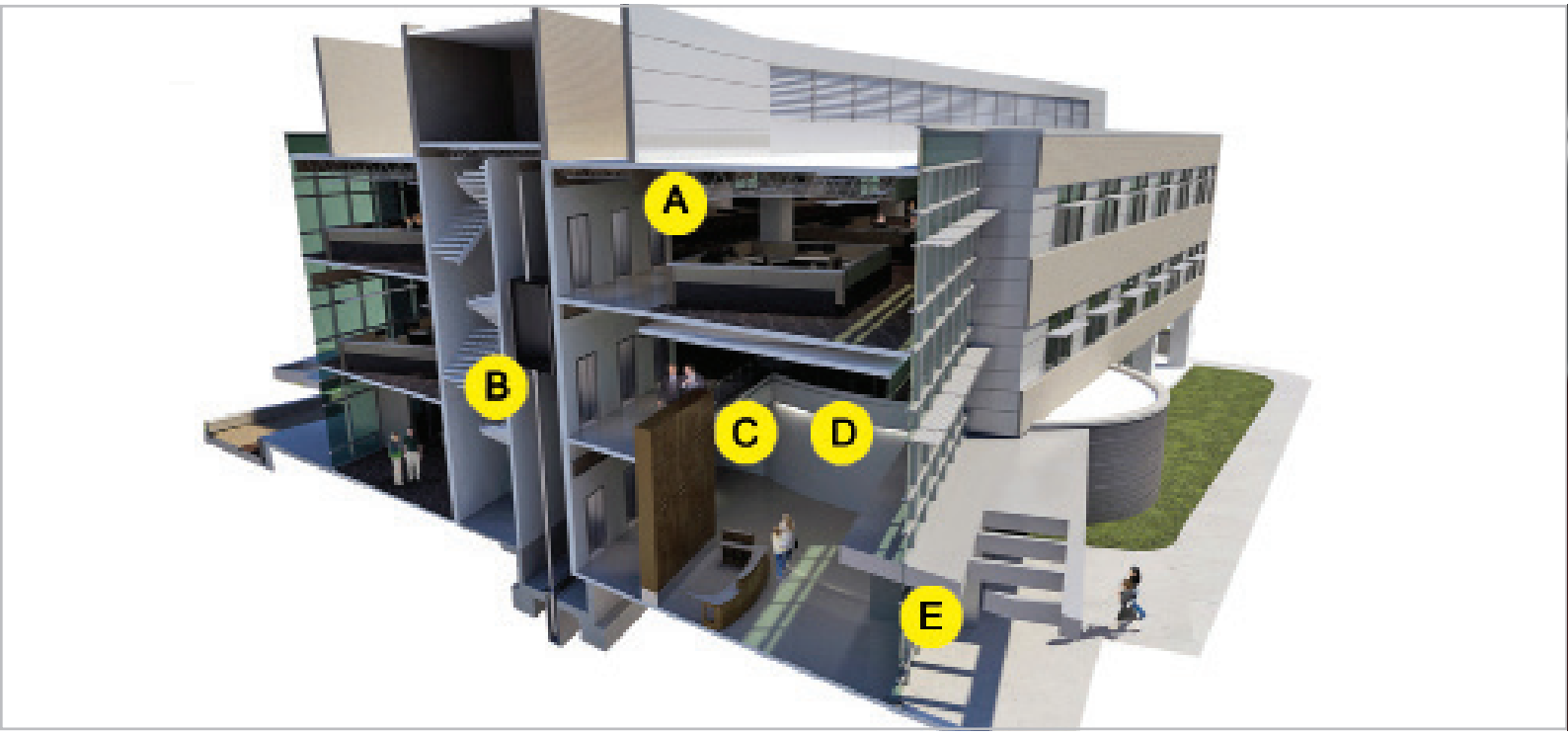
Industrial automation is responsible to fulfill the main task of producing a process. The production process in factories, oil and gas and petrochemical industries, production and transmission lines, and hundreds of other processes is always monitored and controlled by the control and instrumentation systems. In the absence of such technology, thousands of people work on the production of certain products at a very low speed, high errors, and financial risks. DCS operate based on the selection of controllers, processors, input and output modules, actuators and mechanical equipment. The choice of each type of equipment depends on the exact mathematical calculations of the advanced control circles and the extraction of the requirements. In the meantime, the programming of each controller processor is important on the basis of various required functions and control parameters. In the Fieldbus Control system (FCS), instead of controlling vastly by processors, the information

is collected in the field layer by industrial bus and eventually transmitted to the central processor. After analyzing and processing with functions programming and extraction of various parameters, control commands are sent to the field layer on the industrial bus. Choosing all of the above, including different equipment, controllers, modules, processors, and field-layer equipment, is very important for the correct performance of a process.



سیستم روشنایی اضطراری / Emergency lighting system
نظام الإضاءة فی حالات الطوارئ / Аварийная система освещения
Acil aydınlatma sistemi

The human mind issues unconscious commands to evade the danger zone at critical moments and the individual leaves the place, regardless of surrounding conditions. The occurrence of many incidents during the escape, which is sometimes more sadder than the incident, is confirmed by this. Safety systems are now listed as important building requirements in national laws. Emergency lighting provides the minimum amount of light necessary to see the escape route at



A Signs showing various rooms to guide guests

B Emergency exit lights to indicate exit routes at the time of the incident

C Emergency exit light with double-sided lighting and printed display for indoor use

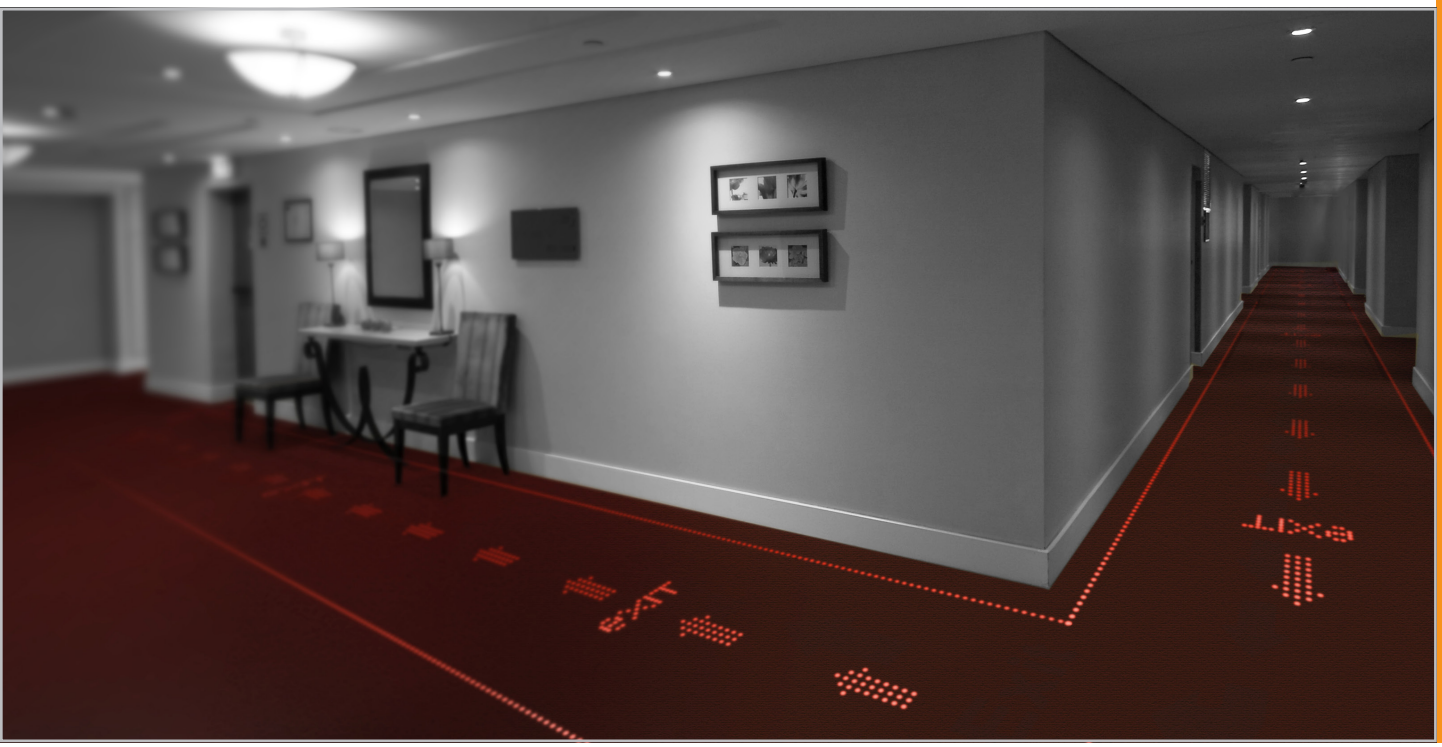
D A Guide to let the people out of the building in complete darkness, when all power sources of the project are swoitched off

E The task of emergency lighting system is to provide lighting to help people exit a building during emergency and power failure, with the help of internal power sources.

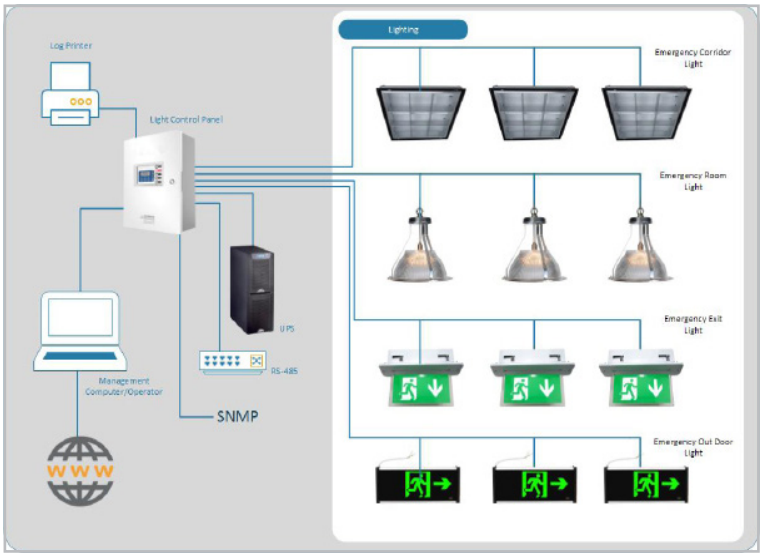
H By integrating the access control system and video surveillance system, and using facial recognition technology, it is possible to allow specific people to enter, and have a strict monitoring of personnel performance.

the time of the incident and blackouts. These equipment are used in the main streets and corridors of buildings. Emergency and exit equipment is also used in each floor to facilitate traffic and speed up the finding of the route.

Providing minimum lighting for people on the main roads and main building sites, as well as exit guidance, are the important safety systems, detailed in the requirements of the standards. Such systems, which are usually designed as a network or stand-alone solutions, are intelligently integrated into the power supply system to supply the power after the blackout. Single emergency lights are usually equipped with nickel-metal hybrid nickel-cadmium batteries, capable of long charging and discharge. Today, LED technology also increases the lighting time and reduces the size of equipment. At the same

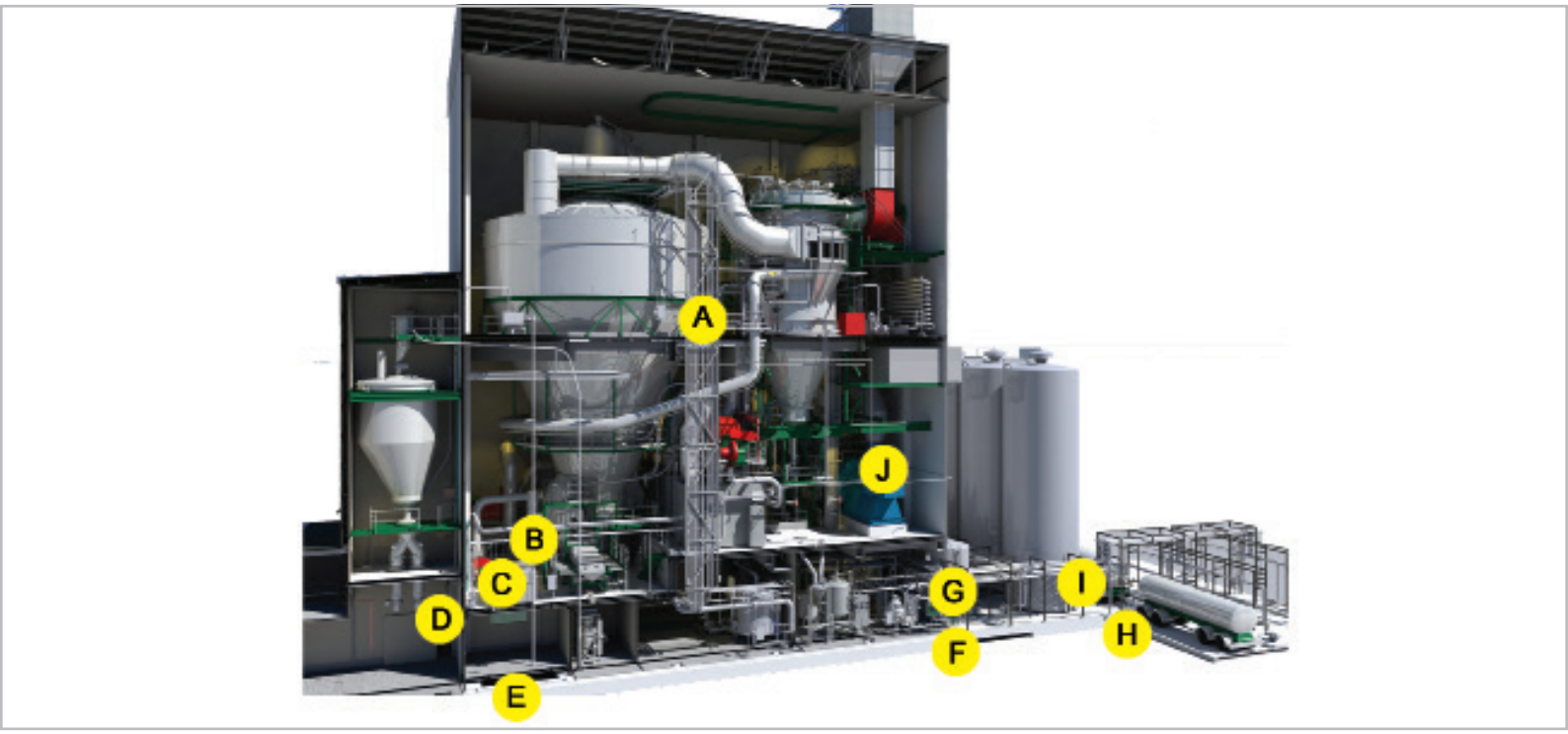


time, low consumption makes the structure of the lights more affordable. These systems are typically implemented in large projects in the form of a grid network structure and are centrally monitored for performance and battery life. Houpiran is responsible for the luxury simulation required by international standards to increase the safety factor.



Fire & Gas / سیستم تشخیص گاز و آتش
Огонь и газ / النار والغاز
Yangın ve gaz

Working in hazardous places has always some concerns for workers and managers of these places; Places in which the creation of a critical situation such as explosions or large-scale choking are expected at any one time. Industrial and petrochemical plants are included in the hazardous places, and such incidents have irreparable damage and exorbitant costs for the beneficiaries of such complexes. Installation of hazardous gas detection systems is necessary as the most important safety systems in such complexes and have been prom-



A Alarm sirens guarantee safer activities in harsh environments with the potential for large expolsion with loud sound and bright light.

B Any types of flames on portable objects is detectable.

C Controling the sensors, sending emergency messages and monitoring the status of the site by the central panel on industrial bus such as modbus

D In case of incident and improper operation of the sensors, personnel can activate the emergency mode by pressing this key.

E "The electrochemical sensors are very sensitive to the amount of gas; they can detect target gas at a PPM scale (percent in millions) and even PPB (percent in a billion).

F "When the amount of hydrogen sulfide reaches the predefined value, the H2S gas detector activates the alarms and alerts the workers.

G Digital input and output equipment connects the F & G system to the fire alarm system panels.

H "Through infrared radiation analysis, the infrared sensor is capable of detecting a variety of hydrocarbon gases.

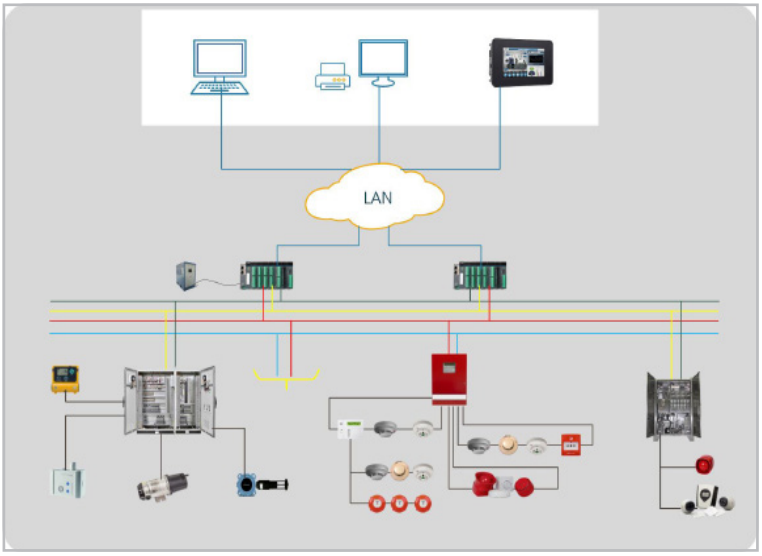
I Considering the site processes, an appropriate sensor detects different types of gas in zone 0.1.2.

J In the event of the spread of a high percentage of dangerous gas or fire in special places or the activation of MCP key, the system will extinguish the fire in whole or in part of the site according to defined scenario.

ising for many years in these centers. Gas detection equipment operates differently from fire alarm systems and warns against an incident before the event.

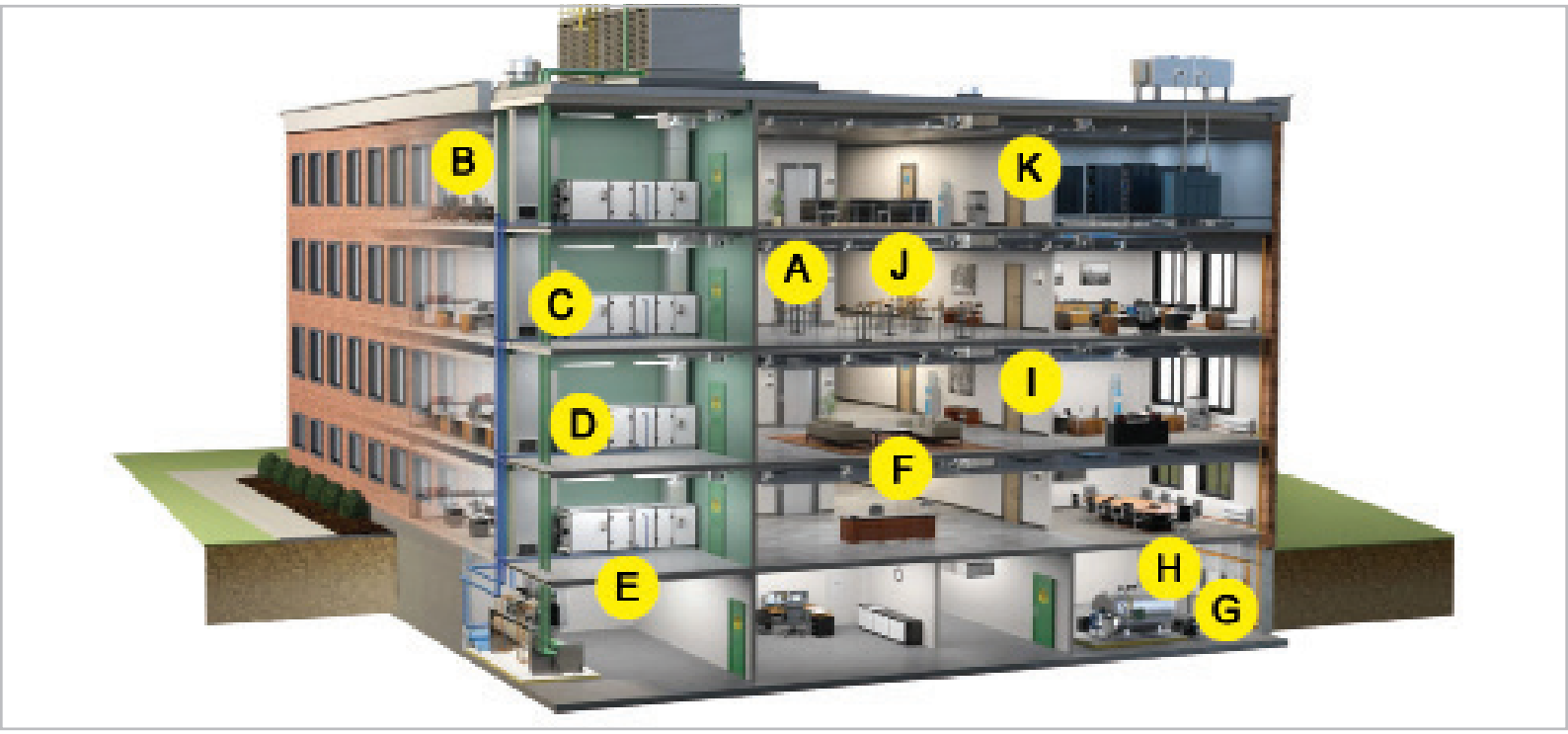
Gas detection systems are directly related to generator factors and the place; the appropriate technology is chosen based on the hazardous substance and the type of industrial process. Typically, these systems can be defined for a variety of gas and liquid vapor, and each equipment is capable of recognizing one or more types of hazardous gas. Hazardous gases are divided into three parts based on the potential of the explosion, toxicity or poisoning, and the removal of oxygen or strangulation, and are accordingly designed at the sites. It should be noted that the complete elimination of these gases in industrial sites is impossible due to the leakage in equipment; so specifying the selection of the permitted percentages of gas to enter the yellow and danger zone are important. Factory control systems are intelligently predefined and perform a par-

ticular work, after announcing any condition. Ultimately, the whole incident is extinguished and people are quickly evacuated from that place. The maintenance of this system and the calibration of the sensors will also be of prime importance in the quality and accuracy of the operation. With its expertise and experience, Houpiran tries to increase safety and reduce the risk of activities for industrial investors in various projects.



سیستم اعلام حریق / Fire Alarm System
نظام انذار الاحرائق / Пожарная система
Yangın alarm sistemi

The fire alarm system has become very widespread today, and people are fully aware of it. This system reduces fire accidents by the timely announcement. Fire alarm systems provide the timely presence of rescue teams and prevent the spread of fire. However, since the technology used in these systems is based on the recognition of fire parameters, this system announces the risk of fire after the occurrence of fire. It is necessary to use this system in all high-rise buildings, commercial and industrial centers according to international and national standards. With the precise knowledge of the systems, equipment,



A "Danger warning by the speaker with a sensivity rating over 90dB at places where the use of these speakers is authorized

B With the use of optical technology for smoke detection, we can cover the vast space of hall in large building.

C Electrical input and output equipment is required to carry out fire extinguishing scenario

D Installing sensors to detect any smoke in air ducts is the best way to analysis space.

E "Fire detection in spaces with different use by sensors sensitive to smoke and heat or any change in ambient temperature per time unit

F "Linear detectors along the route of electrical cables and high-risk routes to check the route's heat and prevent or inform about fire.

G The task of gas detection sensors that are capable of detecting any types of gas including natural gas, prevent any explosions.

H Detection of fire from any heat-productin source by heat detection sensor

I Any sensor or device triggered by human can raise the alarm.

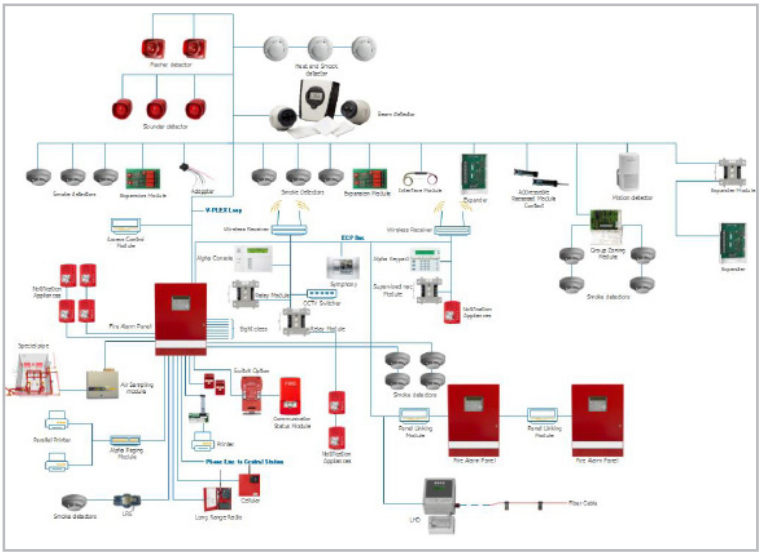
J Smoke sensors are able to detect any fire with smoke-generating sources

K Optical speaker task is to give loud or silent warning in crowded places

and standards, Houpiran is responsible for the damage caused by fire and providing high-quality services for maintenance of equipment.

Fire alarm systems are designed, like other intelligent systems, based on a variety of technologies. Previously, there were zonal systems in the projects, but nowadays, smart addressable systems are used as operating systems, and the intelligence of these systems has reduced the system error and enhanced the satisfaction of the beneficiaries. Fire alarm system has a very diverse range of equipment, but a limited number of devices are used in construction projects. The communication protocols of this system have not progressed in terms of standardization and brand coordination, like other equipment. Specific equipment used in this system includes air sampling equipment for detecting fire parameters, infrared and ultraviolet equipment for fire detection, thermal monitoring equipment to detect fire along the way, optical radars for examination of

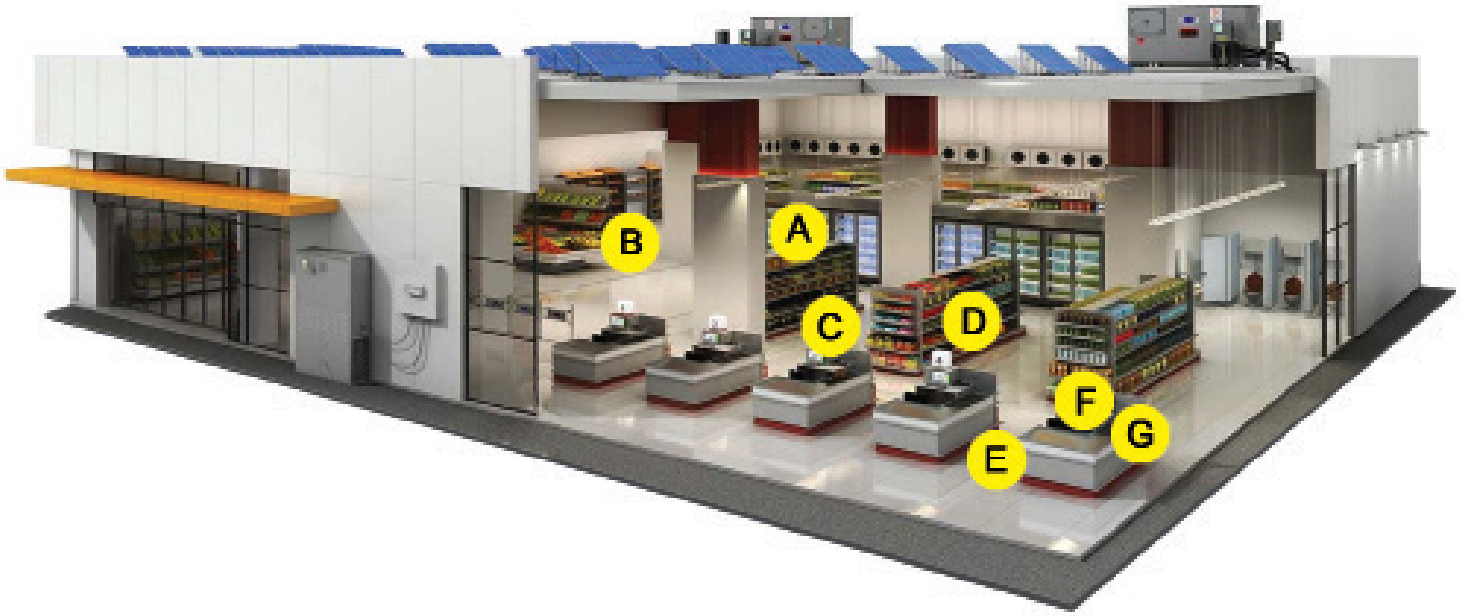
smoke parameters, equipment for detection of flame and gas type. The importance of this system has led to the creation of large quantities of products by large factories and research centers on the one hand, and these products are specially designed for various industries, on the other hand. Therefore, a variety of solutions and products can be designed for any use.



HOUPIRAN

Footfall Management / سیستم تشخیص میزان رفت و آمد
Управление пешеходами / إدارة الذبابة
Düşüş Yönetimi

Increasing footfall in commercial complexes and stores boosts sales and creates high added value. Also, museum and historical monument attendance can be increased by checking the number of visits. Customers' behavior analysis in various industries and businesses is of special and strategic importance for business managers because analysis of customers' behavior will be the source of decision making to meet customers' needs. By providing intelligent behavior analysis and integration with other systems, the system can provide accurate statistics and information to managers. Houpiran is committed to implementing



A Finding products not sold, despit being placed in the popular areas of purchase, and replacing these products with other products.

B Identifying popular locations of customers and choosing the best place for products, lighting and mannequins

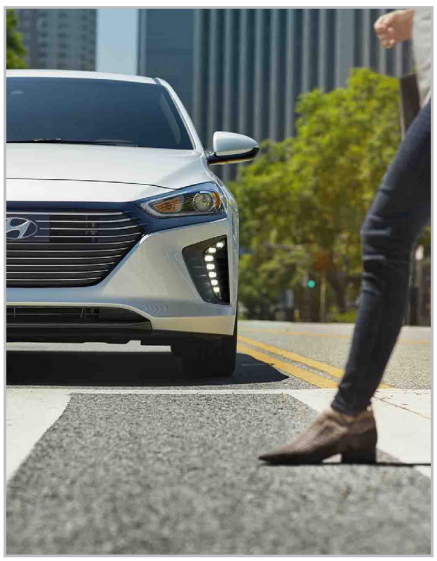
C By tracking the customer's route in the store, their place of purchase and stops are determined.

D By measuring the customer's stops at specific places, we cand obtain accurate information about new products popularity

E Detect the specific time and place in which the customers leave the store after visiting and changing the places to prevent the customer from leaving the store

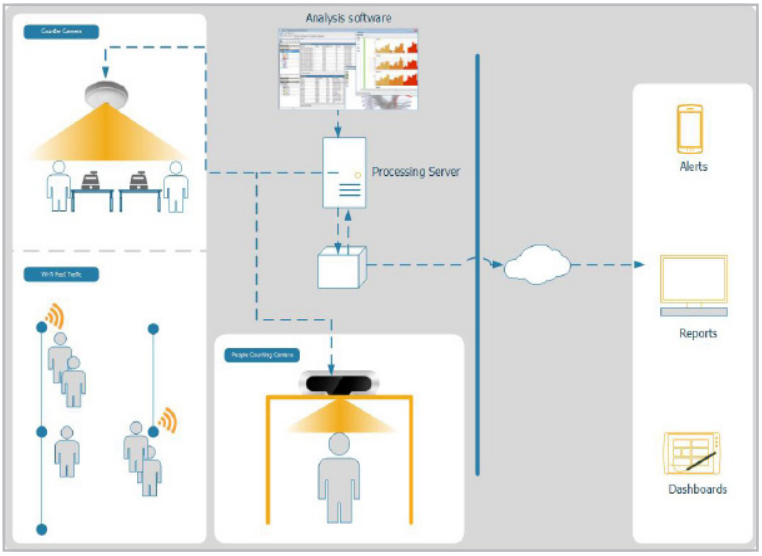
F Predicting customer's waiting time in the queue and optimizing the number of employees

G Analyzing marketing and profit margins by examining the impact of advertising campaigns, audio and video advertising in various zones, etc.



intelligent analytical systems to improve employer's satisfaction.
Depending on the need and performance scenario of various businesses, the diagnosis and analysis of traffic are also different. Although the equipment such as special surveillance cameras, intelligent analysis, positioning and counting software is used, the type of operation and selection of output statistics are effective in determining system implementation methods. This system examines customers carefully. It assesses customer focus on different products. It also reports the number of visits from a particular retail in a complex, most selected products and the sales. The system alone has limited capabilities, but if integrated with people counting, routing, RFID, video surveillance, augmented reality, and centralized resource management systems such as customer relationship management (CRM) and enterprise resource planning (ERP), it can operate accurately and effectively. These systems operate on the basis of network-based protocols, and their most important process is server processing. Systems for detecting

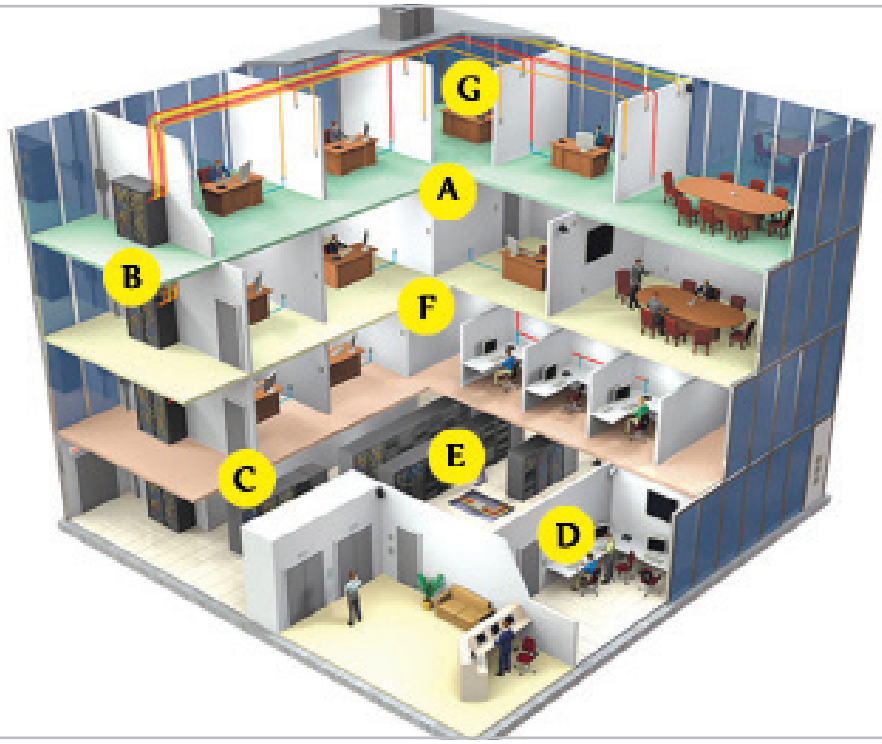
and analyzing traffic in public areas use the video surveillance analytical software. These software have special capabilities, including the following: the exact identification of the number of people in a gathering or rally, the careful examination of subjects, the identification of personal belongings, the identification of the owner of a vehicle, the analysis of risky behaviors such as physical assault and beating, running, jumping and gathering.



HOUPIRAN

سیستم اطفاء حریق / Fire Supperssion System
نظام إخماد الحرائق / Система пожаротушения
Ateş söndürme sistemi

In the last century, the move towards automation and intelligence in safety systems has grown considerably. Today, the use of automatic fire suppression systems is required in all residential, commercial and industrial high-rise buildings. Lawmakers in most countries in the world consider this technology as a way to protect human life and property from fire. Fire extinguishing systems are designed to suppress all kind of fire classes and have a very fast fire extinguishing capability. Staying out of the danger zone and the automatic process



A “By producing watermist (microfog) under high pressure, we can safely put out fire even in the vicinity of electrical equipment.

B Despite the risks to the environment and humans, the CO2 fire suppression system is widely used in special places

C “Aerosol is an advanced technology for safe protection of equipment in fire extinguishing.

D The FM200 is a gas used to extinguish fire in server rooms

E Fire protection for false ceilings and floor is one of the requirements of firefighting in certain places

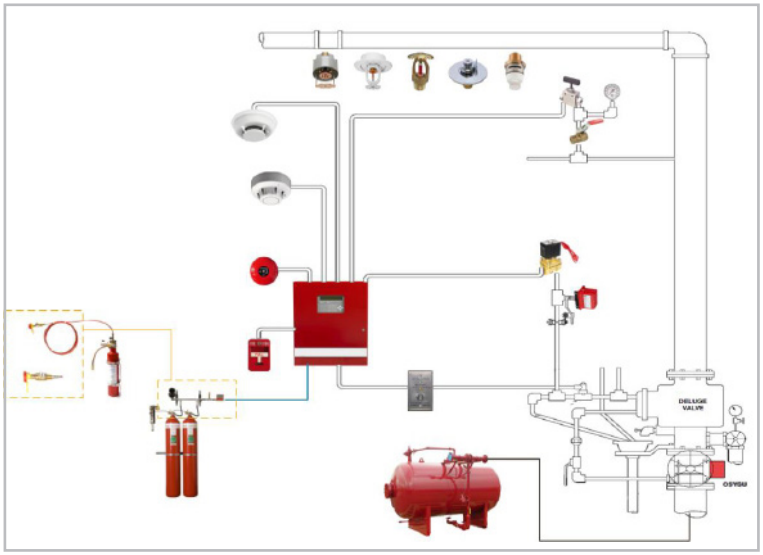
F Automatic powder fire extinguishing system to put out all fire classes

G In the automatic fire suppression system, the water spray is a method used to stop fire class A.

has resulted in the satisfaction and confidence of the users. Houpiran is committed to promoting safety in the provision of special services to operators by ensuring the quality of fire extinguishing systems in various classes.

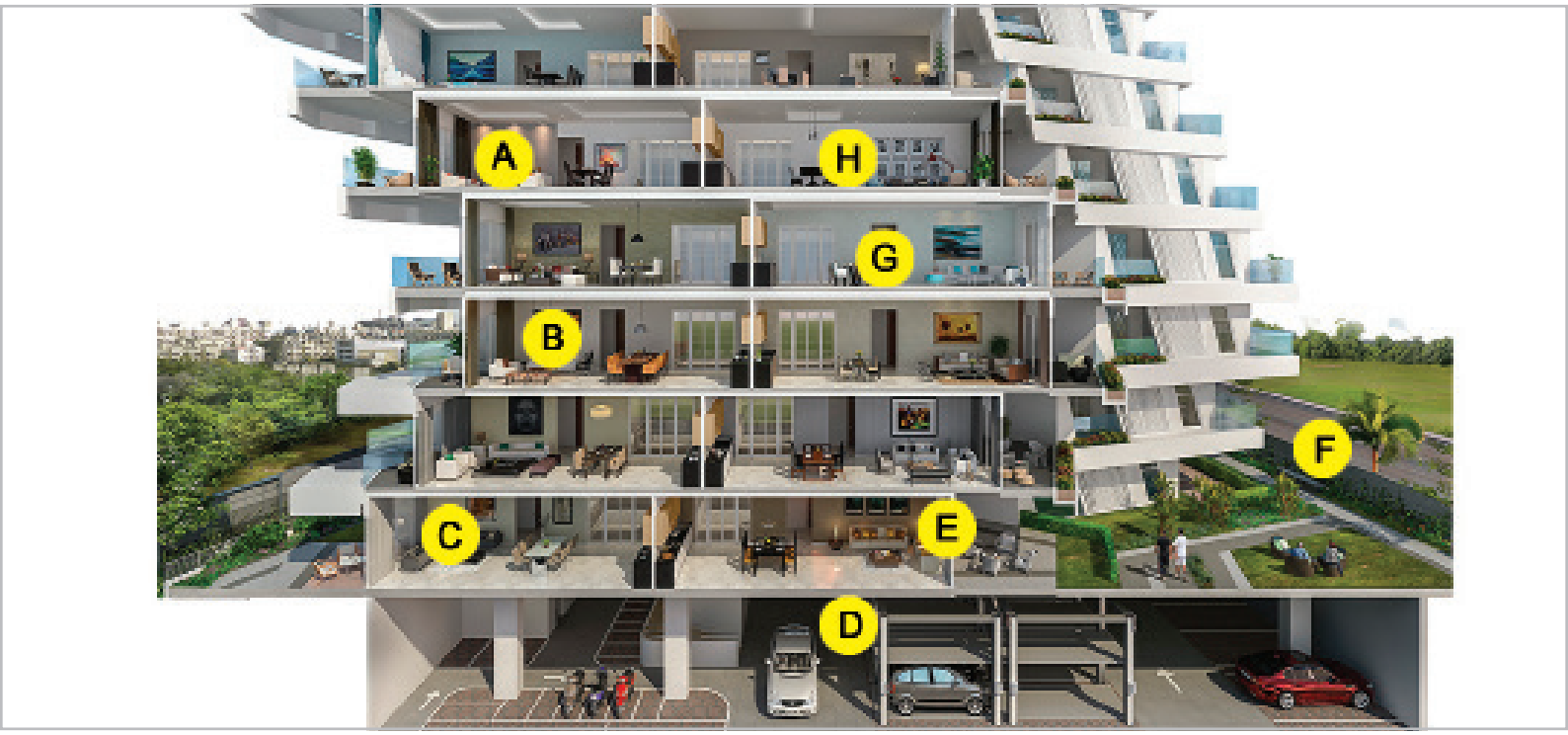
Fire extinguishing systems are used to combat fire from wood, plastics, petrochemical derivatives, oil and gas, electricity, various metals and the like. The precise knowledge of the location and its application makes it possible to have an accurate and reliable design. Water fire extinguisher systems that are commonly used in residential buildings are used to suppress fire from simple combustion materials such as wood and plastic. The use of a variety of automated fire extinguishing technologies such as CO2, FM200, aerosol or water at very high pressures and by nozzles is common to many types of fire. Accurate calculations of the types of capsules, transfer pipes, pumps, nozzles, mechanical equipment, and control systems and automatic valves are especially important

in this system. The significance of this system is doubled, with the high mortality and financial losses in the world as a result of fire incidents. At the same time, improper design and implementation of gas systems can pose a risk. This system is placed at the highest level of integration pyramid, and other systems receive information from it. The fire extinguishing system has a single control panel and fire and gas detectors are independently installed and run.



Fiber To The Home (FTTH) / سیستم زیرساخت فیبر نوری
Оптическая инфраструктура оптического волокна / الألياف إلى المنزل
Evden Elyaf (FTTH)

Building a network infrastructure for communications and the exchange of information has been one of the most important achievements of man in the last century. The increase in the speed and volume of information transmissions is included in working schedule in different countries. Currently, using fiber optic technology is the only solution for the vast network infrastructure in the world. Fiber optic cables are capable to transmit a large amount of information at high speed and security. At the same time,



A Intranet network for connecting the main equipment high-speed data transmission and the capability to develop P2P broadband up to 100GB / S without making any specific change in network infrastructure

B "IPTV features include displaying antenna and satellite channels, creating music, movies, movie series and documentary archive, showing advertisment, news, creating document center and online library, site access and automation system.

C Provision of voice and video communication services on the smart IP platform with the ability to use free Android and iOS devices under a wireless network, without any dependence on phones.

D Transmitting camera images and connecting amplifiers and intelligent building management equipment through the FTTX infrastructure

E "Provision of secure services of databank having the ability to define new security services in the network infrastructure and independent connection of equipment with out-of-project banking networks.

F Providing internet, TV, audio and video services to outdoor users and 4G, 3G network offloading on access points is required for users.

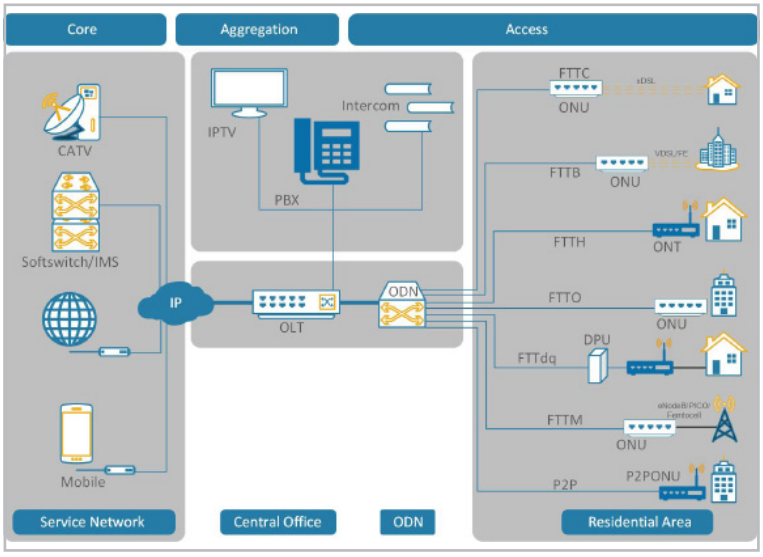
G "Providing Internet, data, voice and video services wirelessly to users of all devices, including mobile phones, tablets, computers and any smart systems for required uses and creating high added value.

H With its FTTH technology, and reducing the number of communication hardware, door phone intercom system include all the features of a door phone such as internal video calling by a portable panel using Android and iOS.

this technology is stable and noiseless. Using fiber optic technology in a large volume is much more cost-effective than other communication solutions.

Today, fiber-optic infrastructure is developed from large-scale national projects to regional divisions and ultimately homes. Fiber-optic infrastructure can be found extensively in different parts of the world, even under the seas and oceans. Although optical fiber cables are known as inactive and passive equipment, it is imperative to use active network equipment in fiber optic paths that are compatible with this technology. The development in the use of this technology has led to the production of a large quantity of fiber optic cable equipment in recent years and has provided extensive solutions to the communications infrastructure. Also, by modifying the protocol or its conversion in the infrastructure section of the project, the old communication lines made of copper cables are changed to fiber optic cables. Houpiran is commit-

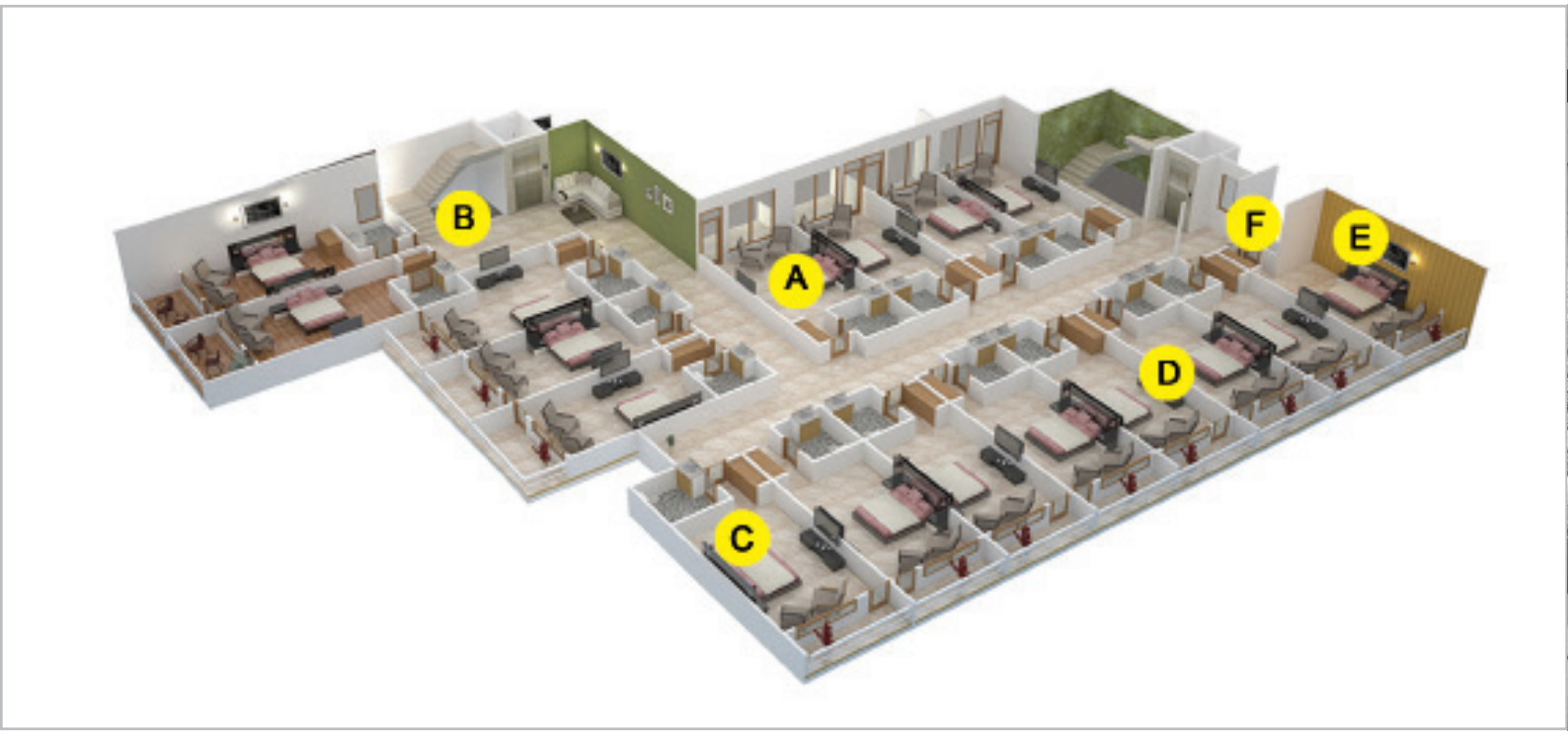
ted to providing the best solution with the highest reliability, with its extensive experience in diverse fiber-optic solutions and the mastery of active and passive technologies. Also, with the transfer of knowledge, the group is trying to develop new technologies in Iran. In the field of fiber optic communication, we have included the provision of special services in the field of FTTH, SDH, PON and the like in our work schedule.



HOUPIRAN

سیستم هوشمند سازی اتاق هتل / Guest Room Management System
نظام إدارة غرف النزلاء / Система управления гостевыми комнатами
Misafir Odası Yönetim Sistemi

Smart hotel systems have a variety of features to maintain customers and tourists satisfaction. In addition to air conditioning, the system is used to control lighting and communications inside building, monitoring energy consumption in the rooms and sending the required information. Intelligent systems and building automation create a sense of tranquility for travelers. It is really a delightful experience to control the curtains in a room to adjust the light at someone's request. The control of entry and exit ports and parking intelligent management are the features of the system. Houpiran is committed to creating a sense of tranquility and pleasure for hotel customers by providing smart services.



A It controls the temperature and humidity required for each room

B Using the data center system, we can use the information of all the guests, their favorite hoppy and other useful information in order to increase their level of satisfaction.

C We can specify and choose the service time intelligently; in emergency cases, any service can be provided in the shortest time possible.

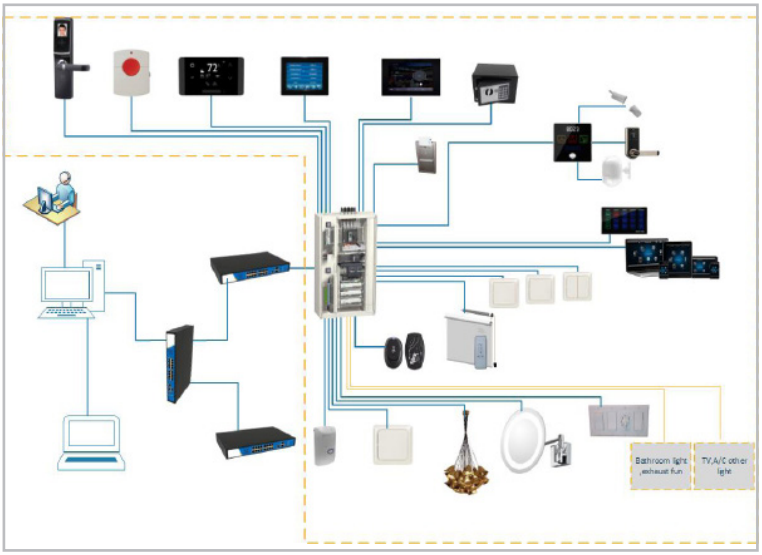
D The installation of a TV network system in a hotel has the benefits such as provision of room invoice, welcome message, informing about recreation centers, displaying service requests (catering, laundry, room cleaning, etc.) on TV set. Guests can easily use the services.

E By equipping the hotel rooms with intelligent systems and using the defined scenario, you can easily reduce energy consumption and improve the level of customer satisfaction.

F Using the smart card, guests can easily use the hotel recreation center and pay the fees in invoice.

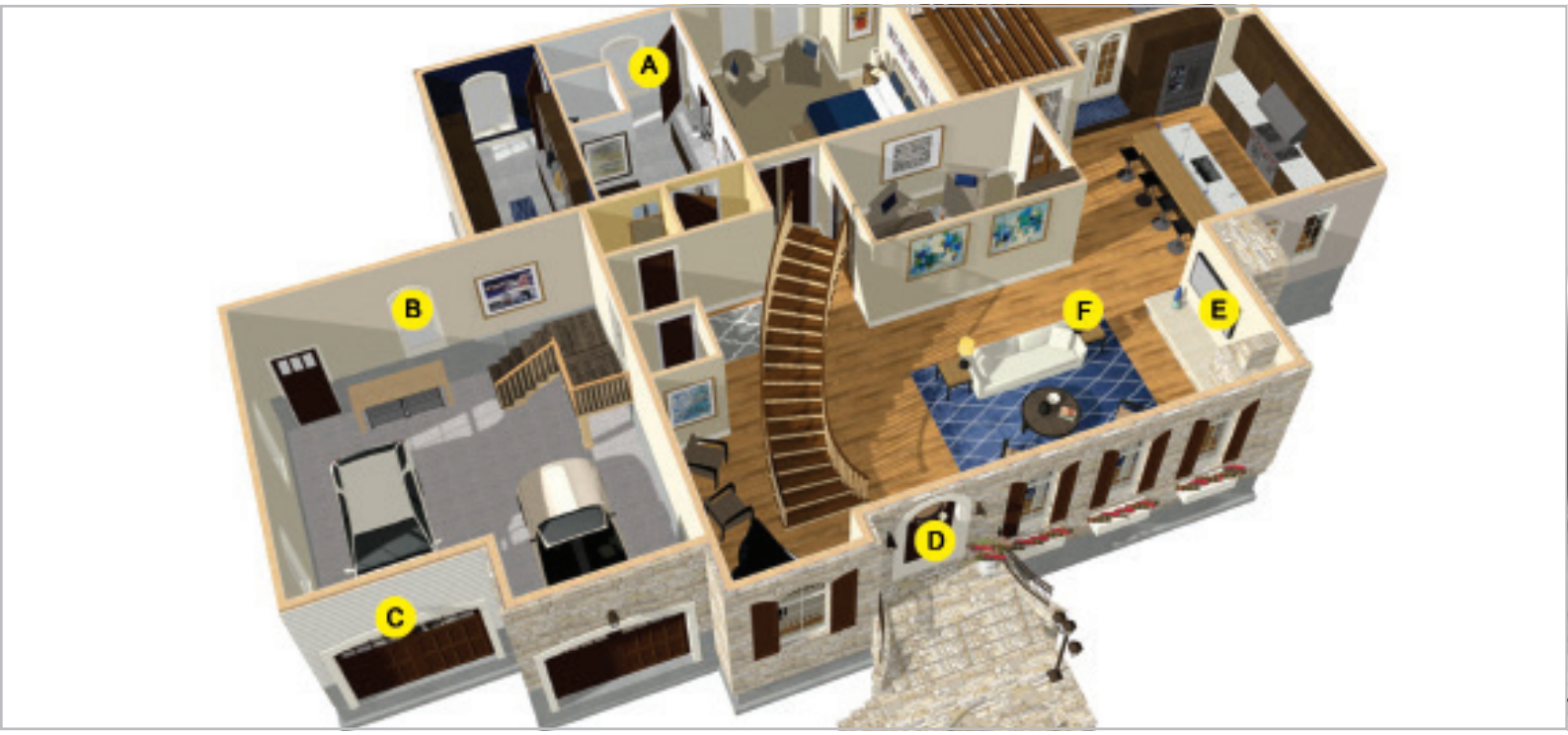
Energy management is particularly important in large buildings, such as hotels where most energy consumers are tourists from various countries with different cultures. The biggest energy users are the air conditioning system, lighting, and service sector. Creating a desirable place, peace and well-being doubles the satisfaction of the beneficiaries and leads ultimately to the creation of added value. The automation of air conditioning system and the automatic adjustment of the degree at the request of tourist, monitoring in the control room and setting up the air conditioning systems to create an ambient temperature before the arrival of guests is common in hotels. The availability of lighting control systems and touch switches in corridors and rooms are the advantages of this system. The use of electric curtains and adjusting them according to daylight or the user's will by touch keys make the environment more attractive. Intelligent management of entry and exit ports and access to parking, and various points with smart tags or by mobile phone NFC without paying any charge, facilitates the aggregation of accounts. Meanwhile, intelligent services, audio and video communications, news and announcement of complex, accounting, advertising and access to the map and touristic places, internal and central communications and emergency services are some of the services of intelligent services in the hotel.The growth of technol-

ogy in the field of intelligent building management systems and the lack of referable resources and a large number of projects managed by our group, and the lack of training in designing, implementing, programming and monitoring, we decided to publish the book entitled intelligent control systems. The book was welcomed by employers and project beneficiaries.Conducting hundreds of training courses on intelligent systems, providing consulting services, designing for the large project along with executive teams, brings peace for the customers of Houpiran group.



Home Automation / سیستم اتوماسیون خانگی
Домашняя автоматизация / أتمتة المنزل
Ev otomasyonu

Although the smart home system is known as the intelligent building management system by the public, it is categorized under home automation systems and it has more different functions than BMS. The system creates a prosperous and smart environment for people inside the home. The use of this system will not have a significant impact on the optimum use of energy or the automation of the cooling and heating system of the boiler room. For indoor uses, the attention to beauty, decoration, and remote control are the main criteria of this system. Houpiran is com-



A "The optimal temperature settings and energy storage in your absence from home as well as the remote control of the air conditioner are the advantages of using this system.

B Controlling electric curtains of building to use natural light or closing them at sunset are some uses of this system.

C By integrating the intelligent system and the security system, you can use intelligent home equipment to detect robbers or simulate the presence of people at home.

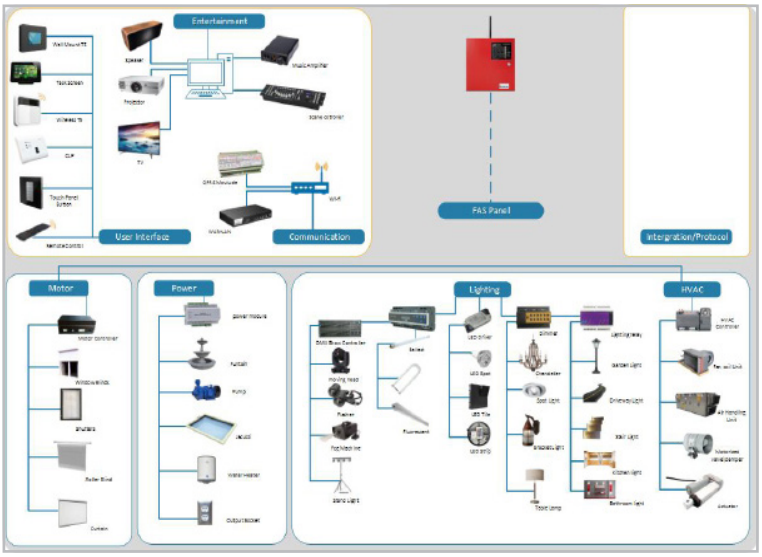
D "You can connect a smart home system to an IP-based smart door opener and activate all the required functionality on the associated key.

E Using the smart TV system, you can play the movie on a TV set in any space and easily view the film in a different space by changing the room.

F Some features of a home automation system are home lighting control, light intensity control, as well as the use of motion sensors for lighting in less crowded areas.

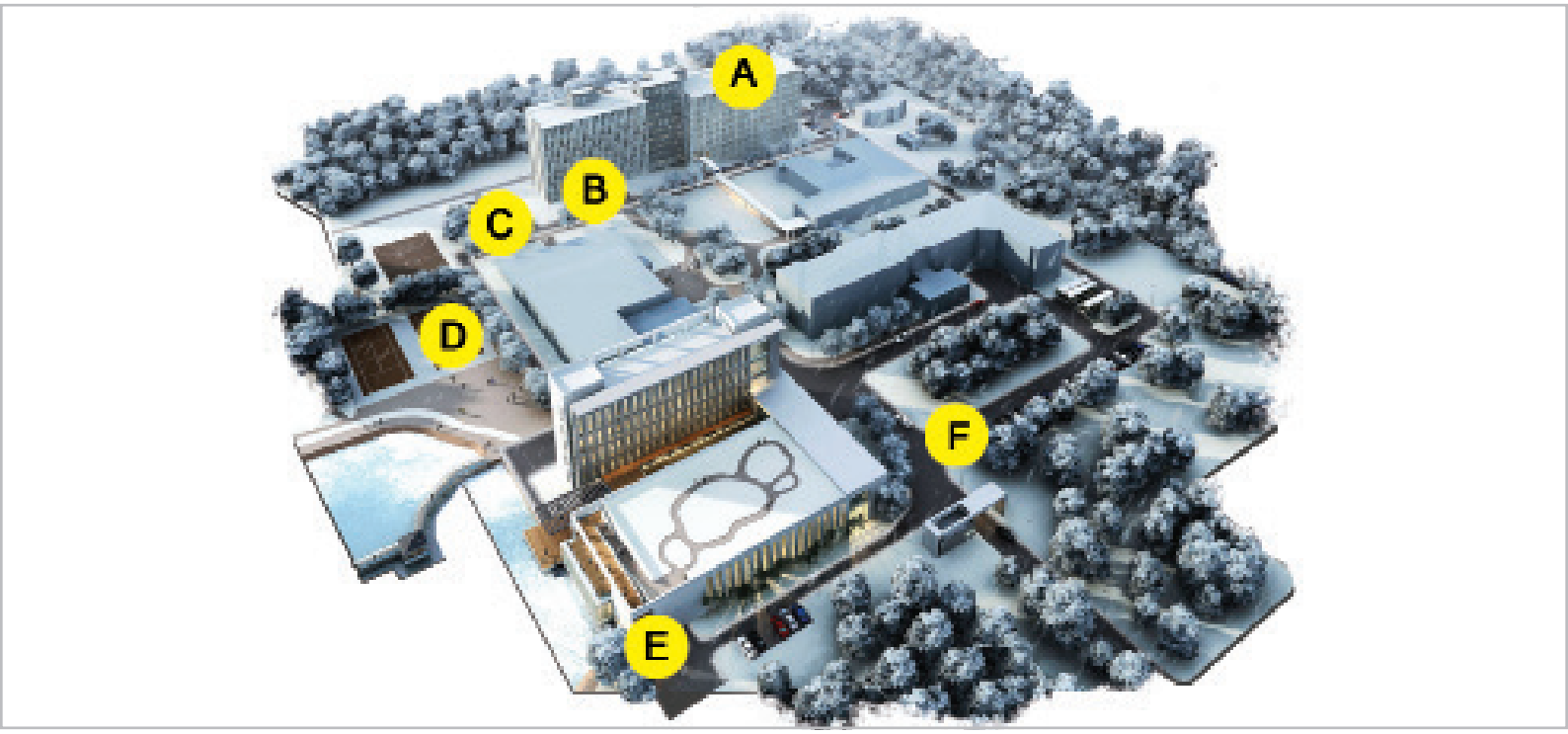
mitted to providing efficient and useful systems to meet the needs of beneficiaries. The smart home system is installed and implemented based on simple, sometimes wireless, addressable protocols. Smart lighting is provided by the touch keys and the central panel as a remote control in the lighting system. Monitor and home power consumers like power sockets could be managed. In this system, facilities such as infrared-based equipment like a variety of TV sets, split air conditioner, kitchen hoods and the like can be managed with the help of communication converters. Supporting audio and video systems and creating display rooms are the newer capabilities of this equipment. Also, connecting the fire alarm system and video surveillance is possible and their monitoring can be programmed on the panel of the system or remotely. Therefore, an intelligent system is able to control easily the lighting, audio and video systems, consumers, electric curtains, safety and security, and it can establish relay communications based on the scheduling or user instructions. However, attention to the luxurious design of equipment to fit the decoration of the building is also one of

the important parameters of the users of the system. The relay communication feature allows the development of the system's activities based on the needs of the users. In the central panel, which is usually touch screens, the related definitions are inserted and applicable. The system also has direct wireless connectivity, allowing you to control all types of smartphone operating systems, and all of the above operations can be controlled and monitored from the phone.



Ice Melting System / سیستم ذوب یخ
Система плавления льда / نظام ذوبان الجليد
Buz Eritme Sistemi

The freezing of passages and traffic routes annually causes many problems for pedestrians and cars. This highly efficient system can be used in large places with high traffic or open spaces for recreation and sports, as well as in the maintenance of old buildings to prevent the snow load on the roof. Ice melting systems are also used in cold seasons in the paths of water pipe or other condensate and gases that need to be carried at ambient temperature. These



A "The platform and the ground for helicopter landing require high sensitivity and accuracy; its surface should not be slippery.

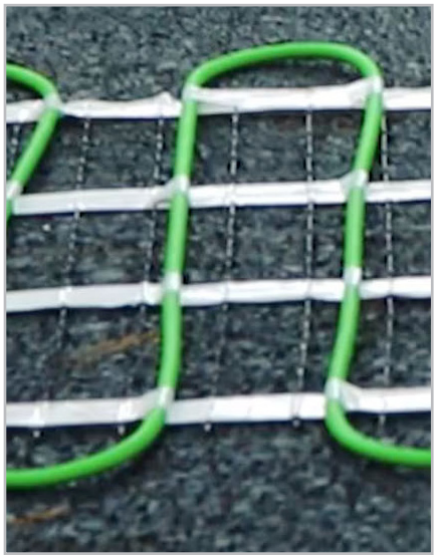
B When snow begins to fall or in cold weather, this system is used to prevent the freezing of the entrance to the emergency department of the hospital and any harm to patients and companions.

C When snow begins to fall or in cold weather, intelligent ice breaking systems are used to prevent freezing of ramps and skidding of cars.

D Defrosting the playing field surface, defrosting the industrial centers, defrosting the train rails and routes with special or high-risk traffic is possible with this system.

E When snow begins to fall or in cold weather, this system is used to prevent the freezing of the entrance to the emergency department of the hospital and any harm to patients and companions.

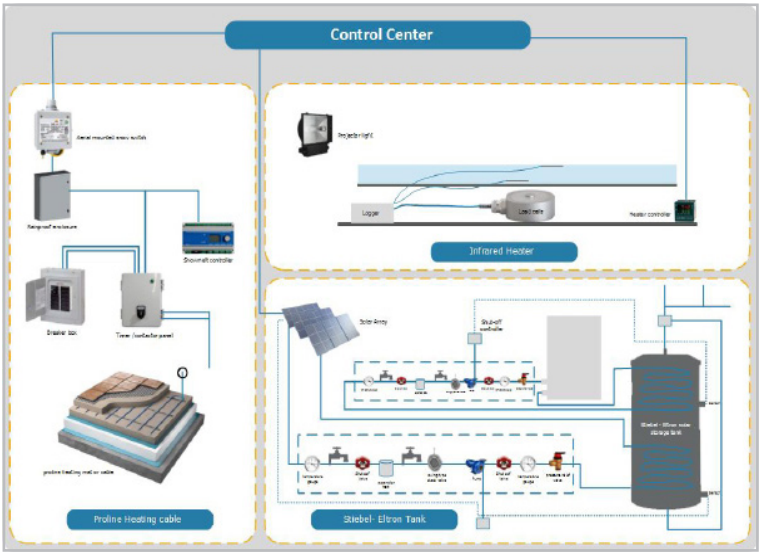
F Antifreeze equipment always keeps the pipes routes and the passways warm in a smart way, in order to prevent damage to the equipment and people.



systems are intelligently controlled and monitored with precision instrument control equipment.

The required ice-melting technology is divided into several parts depending on the place. These systems use the optical source at a specific frequency, fluid control systems, and ultimately electrical resistive systems, based on the required scenario. Each technology has unique advantages. However, all of them quickly prevent snow load or freezing of roads. The system can be used in sports centers such as the fields for football, track and field, cycling, car and motorcycle races, old places like the national cultural heritage buildings to prevent the heavy roofs, beams and trees, building industry to accelerate the traffic in ramps, passages, balconies and roof, transporta-

tion industry to speed up traffic in snowy and hazardous places, parks and recreation centers to prevent injury, the rail industry for train speed optimization, factories and industrial centers for the of special transmission lines for liquids, and in farming industry to keep plants and trees protected against frost.



HOUPIRAN

Video Door Phone Interco / سیستم آیفون و اینترکام
IPhone и домофон / ای فون وإنترکوم
IPhone və İnterkom

In order to establish indoor communication between the units of a building, a door phone is used. Intercom is also used for communication in industrial, construction or urban areas. It is generally used for audio communication. Previously, we used analog and switching lines for communication between the users of the door phone and the intercom. But today, considering the network infrastructure, automation and the ability for integration with other systems, the equipment is produced network-based and with special audio and video capabilities. Having full

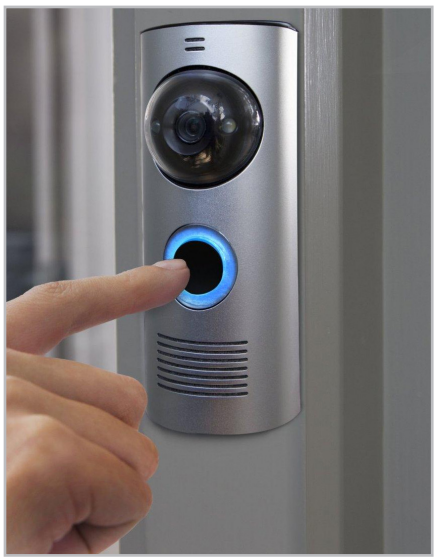
A In case of the absence in a place, it is possible to open the door by mobile or tablet

B In this system, the possibility of internal audio and video communication is provided for free.

C It is possible to have video and audio communication with the lobby and security guards of the building.

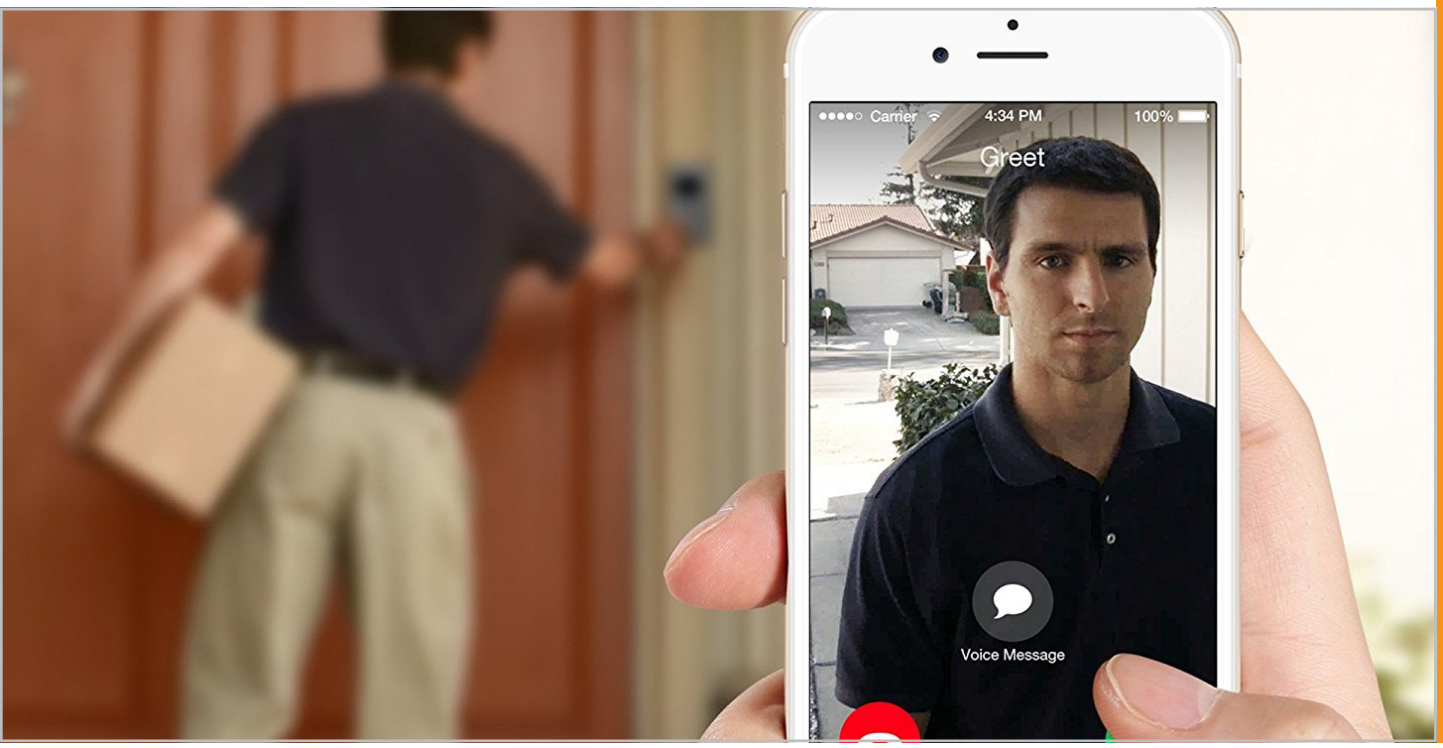
D Intercom equipment for internal systematic communication as well as industrial remote control

E Network-based door panels with protection rating up to IP54

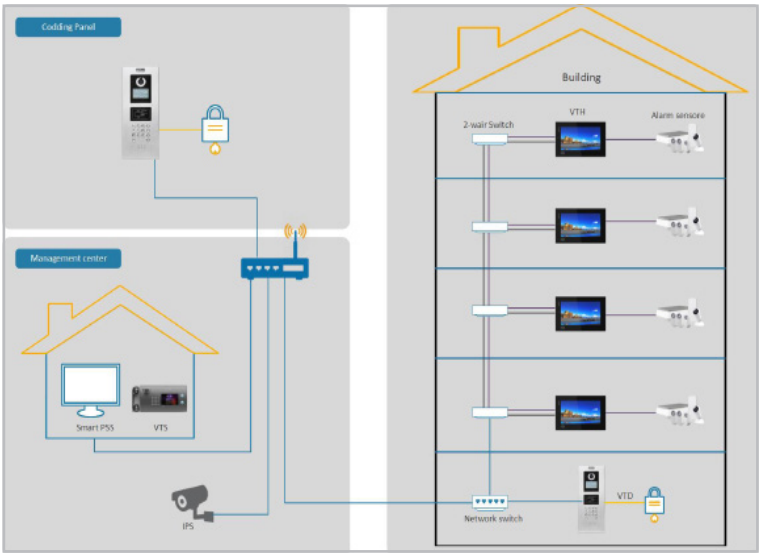


knowledge about various requirements of different places, Houpiran is committed to providing cost-effective offers to beneficiaries.

Implementation of the door phone and intercom systems is usually carried out in analog and network mode. The analog systems of the door phone are distributed among the units, using switching. After installing the corresponding equipment, indoor communication is possible. The intercom system is usually implemented by connecting to emergency call centers and installing communication equipment at various points. Today, networked systems have made such a significant progress that most manufacturers are moving toward providing smart products capable of network connectivity. Since the network infrastructure exists in most of the buildings, the necessary infrastructure is available for this system and the implementation of any infrastructure and switching is not necessary, as it was done in the past. In this system, we can answer to any indoor and outdoor calls using any wired or wireless device,



even mobile phone. So, you don't require to be in any particular point of the building. In this system, it is possible to make free voice and video calls with people inside the building. Also, if integrated with networked phones, remote control or telephone call will be possible. The quality, diversity of services and speed of communication are the features of this system.



Internet Protocol Television / سیستم تلویزیون بر پایه شبکه
Интернет-телевидение телевидения / تلفزیون بروتوکول الإنترنت
İnternet Protokolü Televizyonu

Television has long played an important role in informing and entertaining families around the world. Considering the need for human society and the increase in demand, manufacturers have been working to improve the quality and diversity of their products. Meanwhile, companies and organizations producer of audio and video programs also competed to create higher value-added and developed the industry in the world. Today, smart and networked TVs have been able to meet many of the new needs of the customers. The equipment can receive and display a limited number of images, but if combined with network infrastructure and facilities for processing and storage, they can easily access the

A We use DVB-T and conventional antennas to receive local channels.

B "Showing special promotional messages, breaking news, weather information, camera images, making interaction with customers, playing all kinds of online games, and dozens of value-added services are available on smart TVs.

C In addition to managing channel and setting image size and quality for each consumer, there is the possibility of issuing customer service sales invoice using a central server.

D The purchase of goods, music or desired movie is one of the other features of the Internet TV, which has increased the dynamism of this technology.

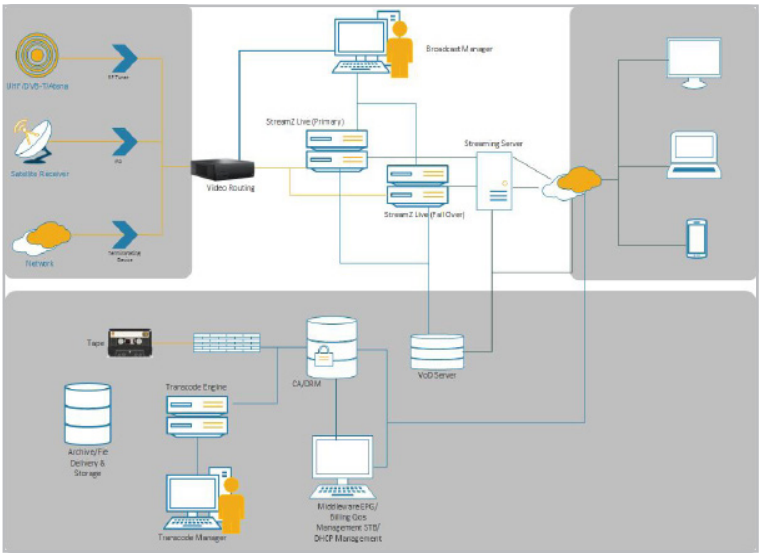
E "Today, you can use all audio and video smart devices such as smart TV, IPTV, mobile phone, tablet, and computers to connect to a network-based television system and enjoy watching and listening to local, satellite, radio channels, and your audio and video archive.

F Receiving thousands of channels with high quality in an integrated and intelligent way, with the help of digital IP satellite systems.

bank of large images and information. Houpiran is committed to providing specific services for networked and audio and video systems.

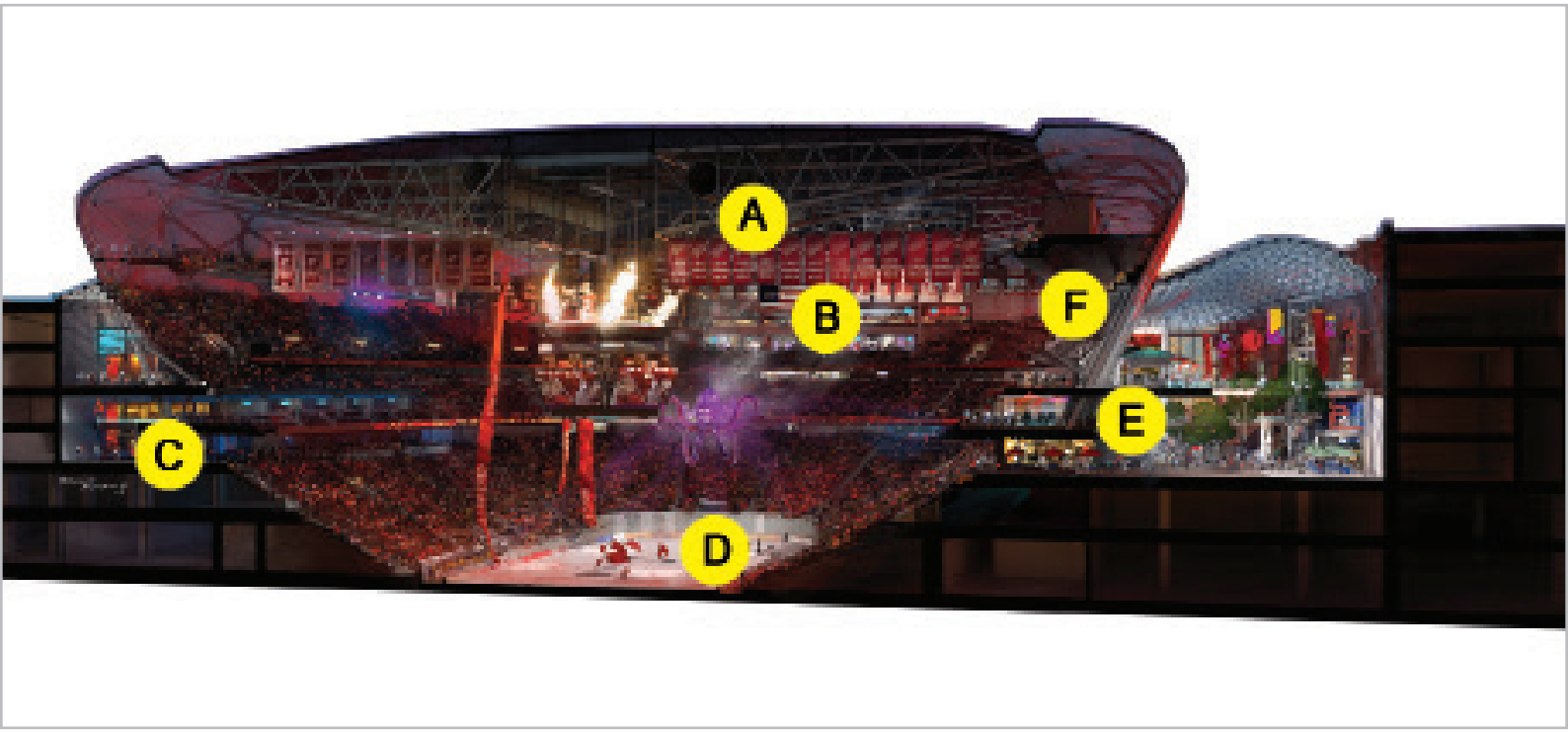
With built-in processing capabilities, the ability to receive the information of home channels, satellite channels, internet, various specialized software related to the industry and online games, weather systems, news feeds, stock markets, mapping and routing, emailing, and dozens of related capabilities, as well as storage capability and easy access to all information through the network, smart TVs have been able to grow in developed countries. Using a special technology, smart TV receives its information from the network in two ways. In a first way, the information is received from service providers such as state-run TV and radio, by paying a monthly fee, and in a second way, the information is received through antennas and satellite dishes and transfer to the system without paying any fee. The internal center of the system provides the user inside the building with the ability to store hundreds of television programs, as well as movies, TV shows, and music. This system creates a high added value for beneficiaries in the projects, by broadcasting the important news of the building or industry, as

well as engaging with users and advertising. Smart TVs do not require separate infrastructure in buildings with internal wireless. This system offers the ability to display fantastic images according to the type of transmission line and communication protocol. Also, by installing the related software on the operating system of smartphones and computers, the home users will be able to receive all of the above features on their portable devices, anywhere in the building, and the problem of watching a single program will be solved at home.



سیستم روشنایی هوشمند / Lighting Management System
نظام إدارة الإضاءة / Система управления освещением
Aydınlatma Yönetim Sistemi

Smart lighting systems are needed to provide large construction and recreational projects or industrial and urban centers with lighting and reduce energy consumption. Also, with the control and management of lighting systems in the above places, it is possible to improve the level of comfort and create a favorable environment for individuals. The task of the smart lighting system is to control all the colored lighting parameters in order to match with the environment light, as well as to control the



A Creating color variations and combining light with music in special halls is possible

B The use of the DALI system has a significant impact on reducing energy consumption and intelligent lighting.

C Lighting with a variety of optical speakers and calculations of light reflection on playing ground with regard to the type of ground

D Lighting and creating innovative designing with respect to the architecture of the area with the help of a variety of technologies and up-to-date products

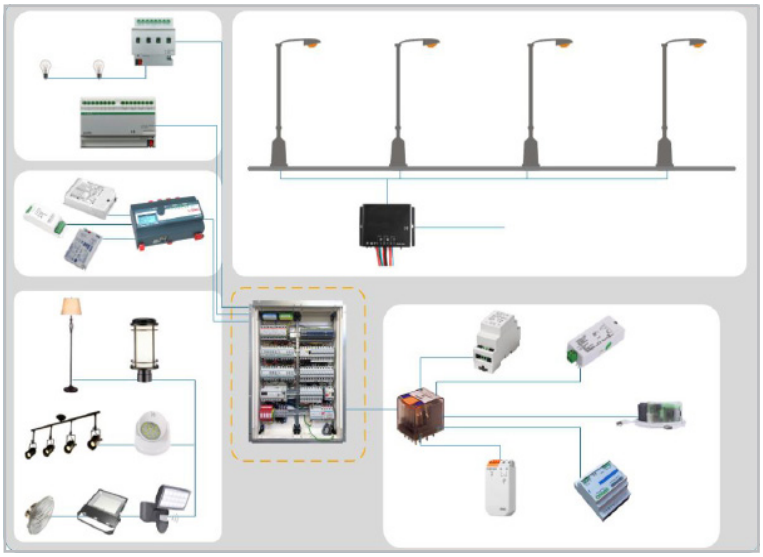
E "The required illuminance (in lx unit) is measurable by the sensor for any space; it is possible to send feedback to the light lines.

F Using the capabilities of this system, you can manage power consumption, and if there is a defective bulb, the alarms are sent to the unit.

desired sound. It has a precise control over energy consumption. Houpiran is committed to designing intelligent lighting systems for the satisfaction of beneficiaries.

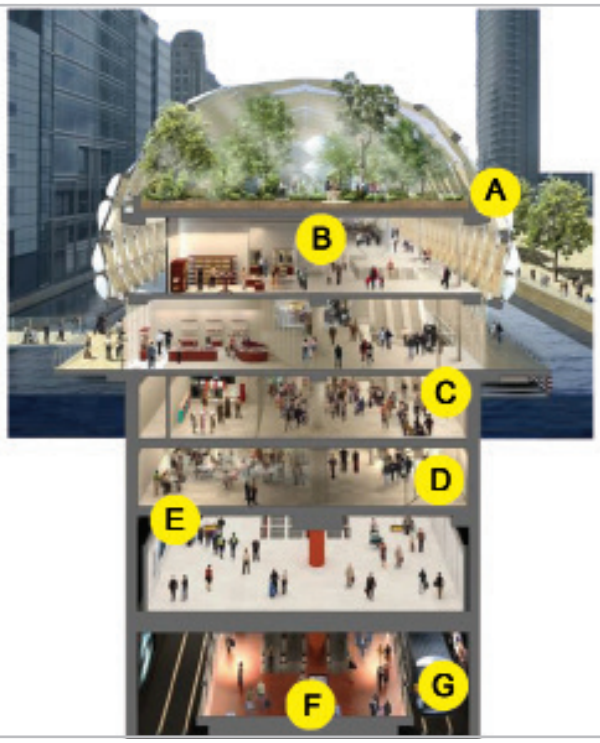
The use of standard lighting management protocols, which are commonly seen today in the lighting equipment produced by well-known manufacturers, as well as the use of highly accurate and reliable industrial control systems with high-speed performance, require the creation of high-reliability lighting systems. This technology can produce tens of millions of different colors in lighting. Also, by checking the natural light of the environment and allocating the lux luminous flux, this system manages energy carefully and is responsive to the needs of the consumers. The smart lighting system is able to accurately observe all sources of light and perform the repair and maintenance services in the shortest possible time. The smart

lighting system is able to be integrated with standard protocols and networks that make it possible to implement the capabilities of the system in large areas and even interurban spaces. This system is used in various centers and large administrative, commercial, industrial and military buildings, urban areas and city centers.



Master Clock / سیستم ساعت مرکزی
Мастер-часы / ساعة رئيسية
Ana saat

Intelligent systems are more valuable than ever in transportation, industry, global communications, time management, because of vast urban areas. The existence of thousands of different small and large automation systems in a wide range of industries has produced the need for time synchronization to coordinate their performance. The task of the master clock system is always the display of the time and the synchronization of equipment and systems. By integrating art and



A One-sided and dual-sided analog clocks display time in specially designed spaces.

B It is necessary to display the exact time in installation, management and control rooms.

C The time in the passenger information system and departure time is set with the master clock system.

D Master clock system sets the time for systems, including information and traffic signaling system.

E Synchronization of all servers, security, communication, and control equipment by this system is obligatory

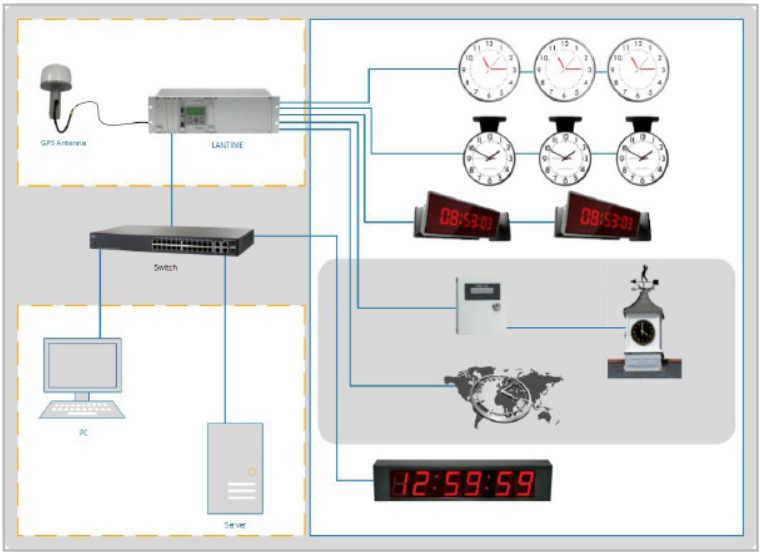
F The digital display is able to display the time and the date of several different regions simultaneously.

G The task of GPS receiver is to receive the time from the satellite with high precision.

architecture in displaying information and mastering inter-system integration, Houpiran attempts to facilitate overall coordination among systems.

On the one hand, master clock system has the task of synchronizing telecommunication, electronic, control equipment and software in the projects, on the other hand, it has the task of displaying time in analog and digital forms for individuals and personnel. By receiving the exact time from the satellite, this system can display the time, based on regional clocks. Because of the impact on the performance of critical systems, the design of the master clock system is always of particular importance. Therefore, it is important to recognize and apply the basic parameters of this system in design. Also, performing simulations and accurate calculations, and showing additional information is ef-

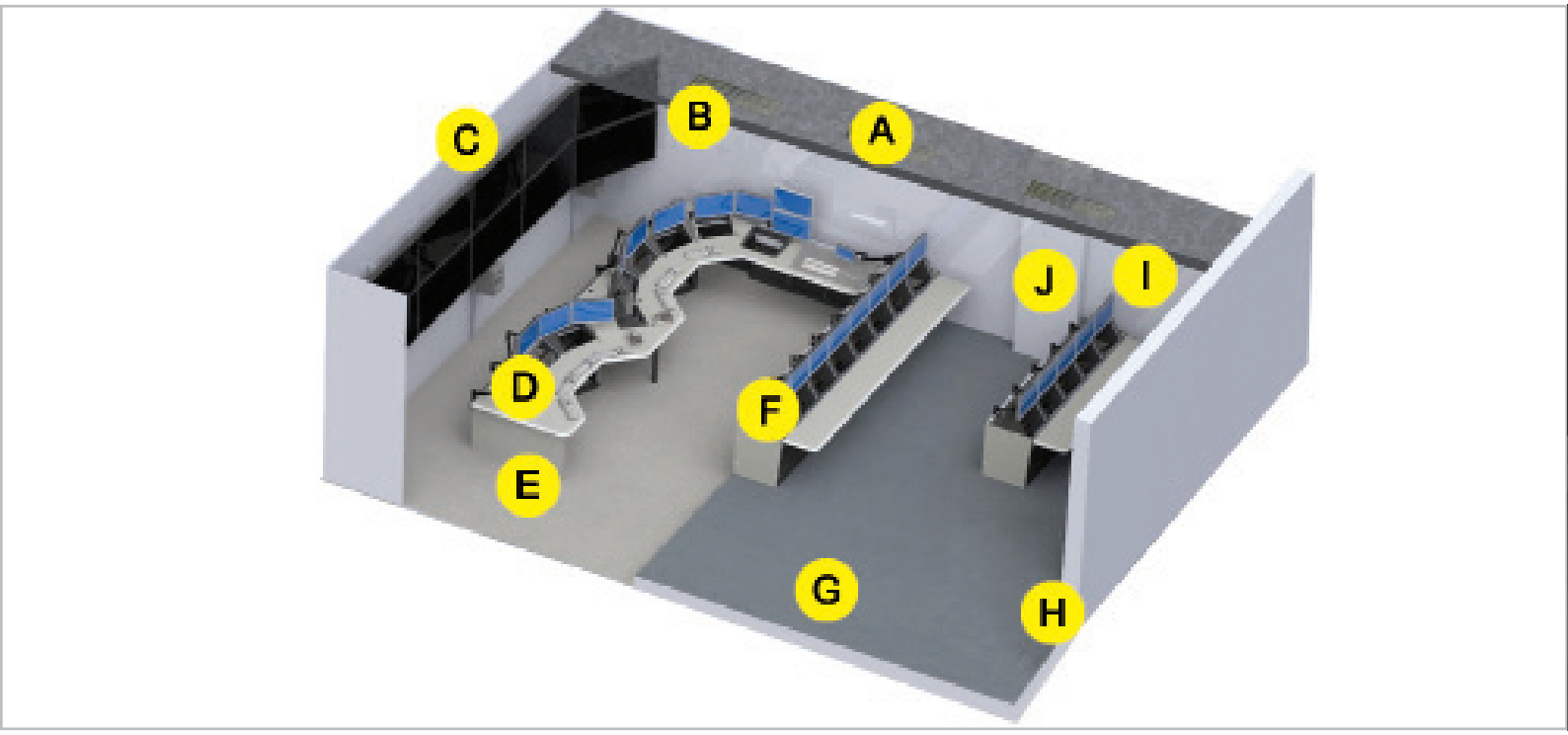
fective in displaying time. Since this system is used in various forms from a long time ago, the combination of this system with art and architecture in displaying information is usually very important for beneficiaries. This system connects to the central servers, and the time used in all subsystems is coordinated with the regional clock.



HOUPIRAN

سیستم مدیریت مرکزی / Management Monitoring Room
غرفة المراقبة الإدارية / Комната мониторинга управления
Yönetim İzleme Odası

Central management includes a place to control and monitor all intelligent systems in a building or a vast industrial and urban environment. These places have many standards and requirements for the transfer of personnel to the site and accomplish tasks. Central management is like a brain to control and protect the project because the system's relationship with users and organization and the way to manage the systems are created in this section. In the event of any problems in this section, the performance of intelligent systems will not be of any particular value. At the same time, the passive defense requirements are of great importance in this section. Houpiran is committed to designing these



A The ambient light level is adjusted using the accurate calculations and the simulations based on international standards.

B The implementation of protection methods against electromagnetic disturbances and any radiation is obligatory in places of particular importance.

C Considering the equipment used, the dimensions of the control room are designed optimally.

D Management and monitoring panels interact with the main users and therefore, in order to achieve monitoring and control goals, there should be a good interactive structure between users and display interfaces.

E The design of ceiling, walls and the floor should be carried out in such a way that it decreases echo and does not to disturb the operators.

F The size of the monitor and its distance from operators are determined after accurate design calculations

G In building the workstation floor, we should use materials with the minimum reflection of light.

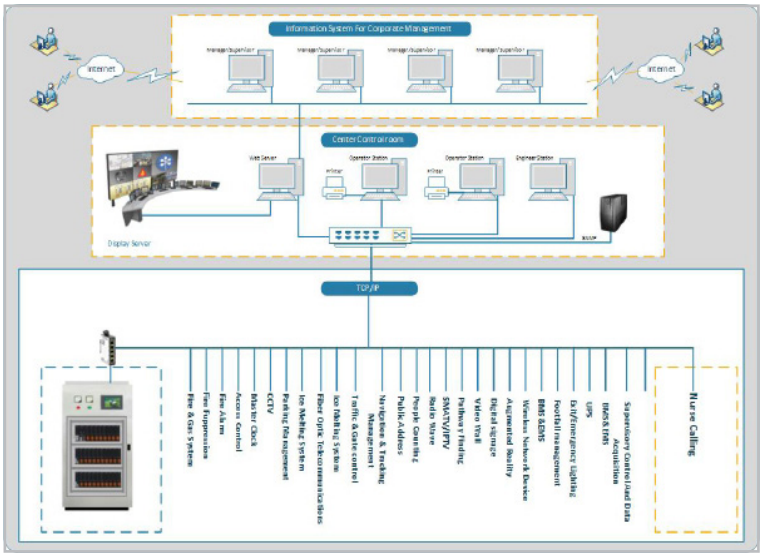
H Entry and exit doors of the control room must be designed in such a way as to prevent any difficulty in carrying the equipment into the control room.

I The type of network infrastructure is a critical factor for false ceiling and flooring

J With regard to the presence of the personnel and availability of equipment at the control room, provision of security, adjusting the temperature and ventilation of such places are of great importance that should be carried out fully automatically.

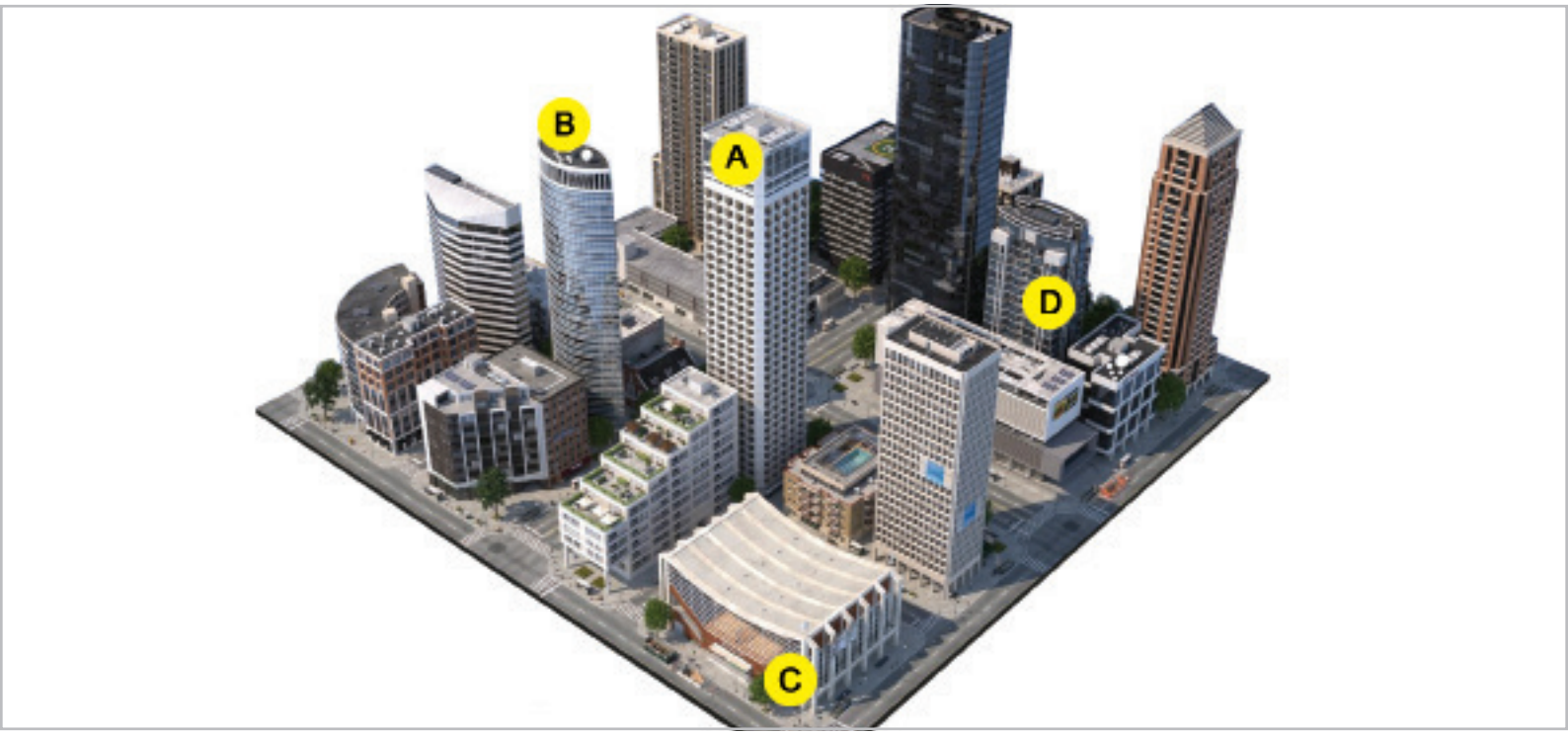
sites in accordance with international standards and simulating them in order to satisfy the beneficiaries.
Central control and monitoring rooms are designed and implemented based on the systems required by project beneficiaries. The integration of systems, known as the inter-system synergy, also connects with the user in this place. Integration simplifies user performance and eliminates human error. Central monitoring and management rooms are the communication tools of the beneficiaries with intelligent systems. Generally, this communication is made by visual systems such as monitors, wall mounted projectors and large displays. Each smart system has central monitoring software that is centrally controlled in the control room. Control and monitoring scenarios are dependent on the installed systems and the view of beneficiaries in monitoring and controlling. There are technical requirements and standards for designing such places. Users can check and control all issues under the condition that they have good air conditioning, workspace and proper ergonomic system during the shifts. Meanwhile, a happy place and well-arranged chairs prevent exhaustion of users. In such places, the methods for monitoring

the systems including security and safety, instrumentation and control, telecommunications and network, maintenance and repair, electricity and energy are different, and each one has a separate scenario. The software has been developed to simulate and design these sites. The control and inspection method and the room light setting depends on the number of monitors as well as the air conditioning system. Securing this room is a priority in all projects.



سیستم پوشش موبایل / Mobile-Phone Coverage Management
إدارة تغطية الهاتف المحمول / Управление покрытием для мобильных телефонов / Cep Telefonu Kapsamı Yönetimi

Today, Mobile is considered to be the most important device for voice and data communications in the world. The GSM cellular network was created to provide the infrastructure needed for communications in the world. Today's equipment has the ability to move data at very high speeds and volumes. Although the mobile network can be called the world's largest wireless communications network, the existence of barriers in many areas has created some constraints for wireless networks, including poor signal or unstable signal. By utilizing our own experiences and without

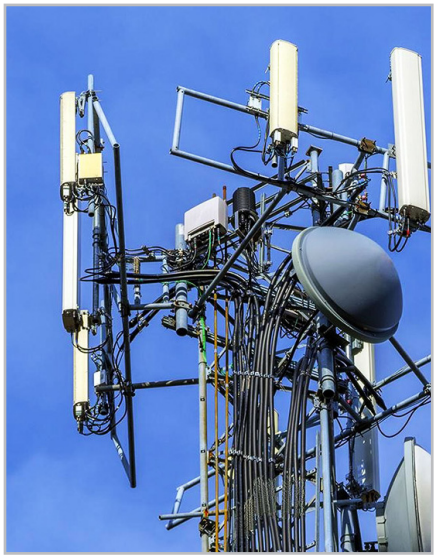


A The DAS system spreads all types of signals of various operators and offers services such as sending advertisement and welcome messages.

B With the use of a large outdoor antenna or small smart equipment, mobile coverage can be provided for different areas.

C In some remote areas where it is not possible to install mobile antennas, satellite phone systems are used for communication.

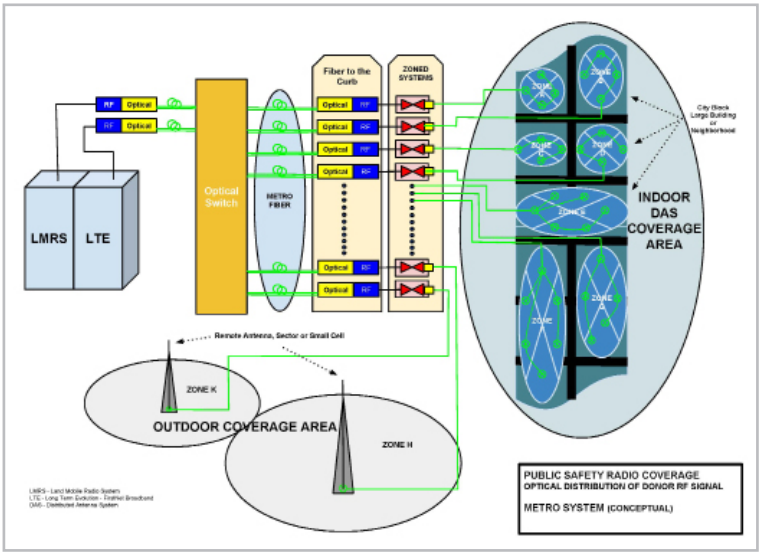
D Internal antenna systems are used to create mobile network coverage in areas where specific walls are built, as well as underground space where mobile coverage cannot be created by an external antenna.



having to adopt specific measures, Houpiran fixes the problems of connection to operators and is committed to providing secure and sustainable communication networks for the beneficiaries.

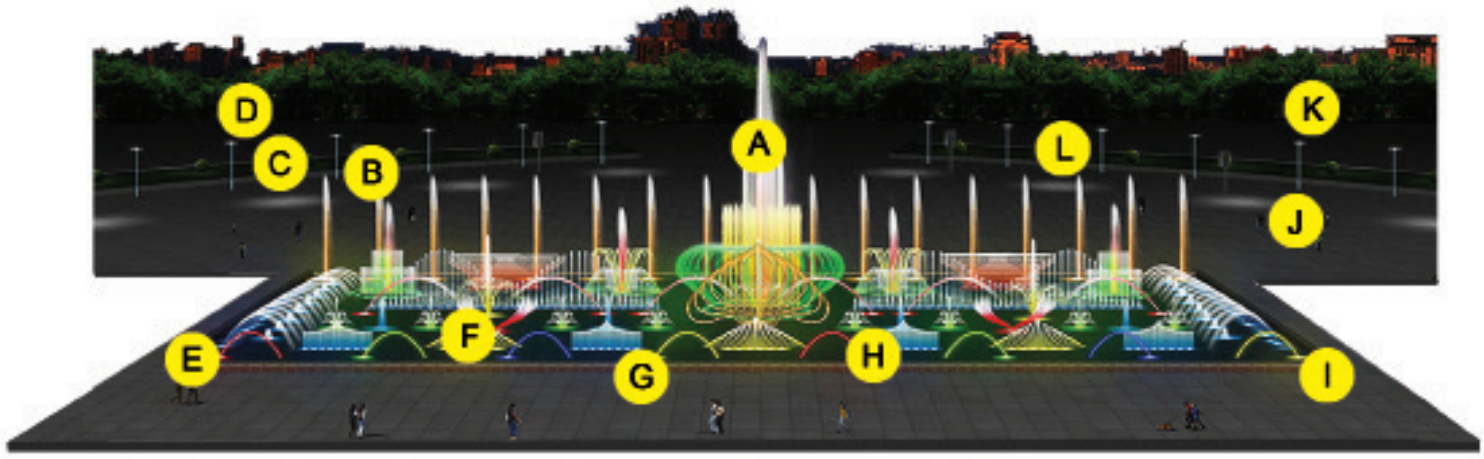
The technology used for fixing mobile coverage problem is used for places with poor or unstable signal coverage. Using this method, the access to operators will be provided with SIM card devices. Various technologies have been developed for this purpose. The most commonly used technologies for large buildings are the use of fiber optic and repeaters to transmit data to all-directional antennas. With this method, you can cover a very large dimension of the building and implement the optimal system at the desired locations. The easiest way is to use coaxial cables for small areas. In non-urban and urban environments, the best offer for network development is the use of smartphones that are used in small areas like mobile network BTS. Today, with the support of wireless networks, these equip-

ment helps to strengthen the wireless network coverage, and provide the upper link with other networks, and also support Wi-Fi offloading. So, in all of the above, the access to networks depends on many factors due to the obstacles and buildings. Simulation and frequency calculations are one of the best design methods for these systems.



سیستم فواره موزیکال / Musical Fountain
نافورة موسيقية / Музыкальный фонтан
Müzikal Çeşmesi

Variety of multiple solutions to create value added in different sectors of the economy and the significant improvement in product sales and services has become a knowledge and management policy in the world. In the meantime, intelligent advertising, with the help of technology-based systems and equipment, has had a significant impact on the development of this science in different parts of the world. With the help of business and marketing consultants and benefiting from vast branches of manage-



A It is possible to display various water shapes using different motorized nozzles.

B The color lights produced by the LEDs give a beautiful and diverse look to the fountain.

C The DMX controller is used to control lighting and music synchronization.

D The monitoring system is used to indicate the status of the pumps, to change the music and control the function of motorized nozzles, and to check the status of all sensors and devices.

E Air-conditioner in musical fountain artificial lakes prevents the formation of algae.

F Underwater power supplies with a high degree of protection against humidity are used to feed controllers and lights.

G The task of the central control center is to process all the information and send the necessary commands.

H According to the design, various pumps are used for water pumping.

I Sensors measure the level of the water and issue commands for shutting the pump down or pumping water into the lake.

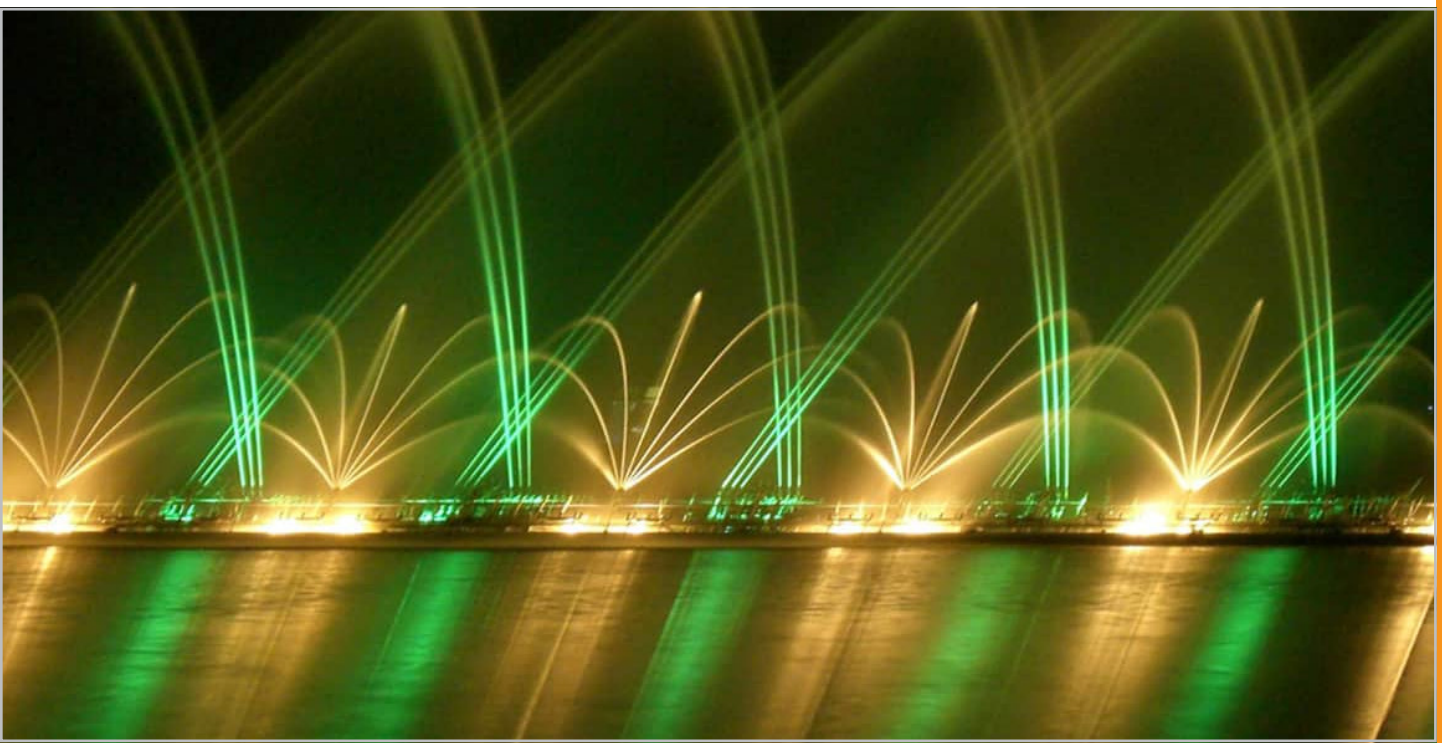
J A water treatment room is considered near artificial lake to keep it clean.

K When the wind blows, the wind control system controls the fountain and reduce the height of the water or shut down the system completely.

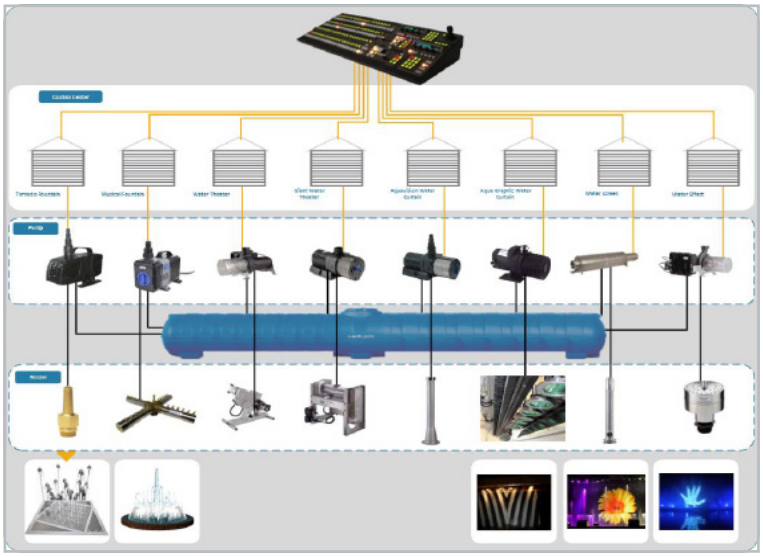
L The speaker is used for playing music simultaneously with the operation of pumps and light.

ment knowledge, and mastering targeted and intelligent advertising, Houpiran is trying to provide up-to-date services in this area.

Musical fountains come in different types and sizes. In designing this system, a combination of mechanical, power and facilities engineering have been used. Moving water in a variety of ways and in harmony with music and light creates a pleasant atmosphere for visitors. The main features of the system include the following: nozzles equipped with controlled motors for selecting the direction, pressure control pumps, music playback systems and LED projectors with the ability to create various colors. All functions of the equipment are processed with central controllers and servers, and the necessary commands are sent to the system. The design of these systems is done with accurate mechanical calculations and instrumentation and control. It is important to apply the required pressure and the motion of the motor step of the field equipment is very important. Due to high pressure, the



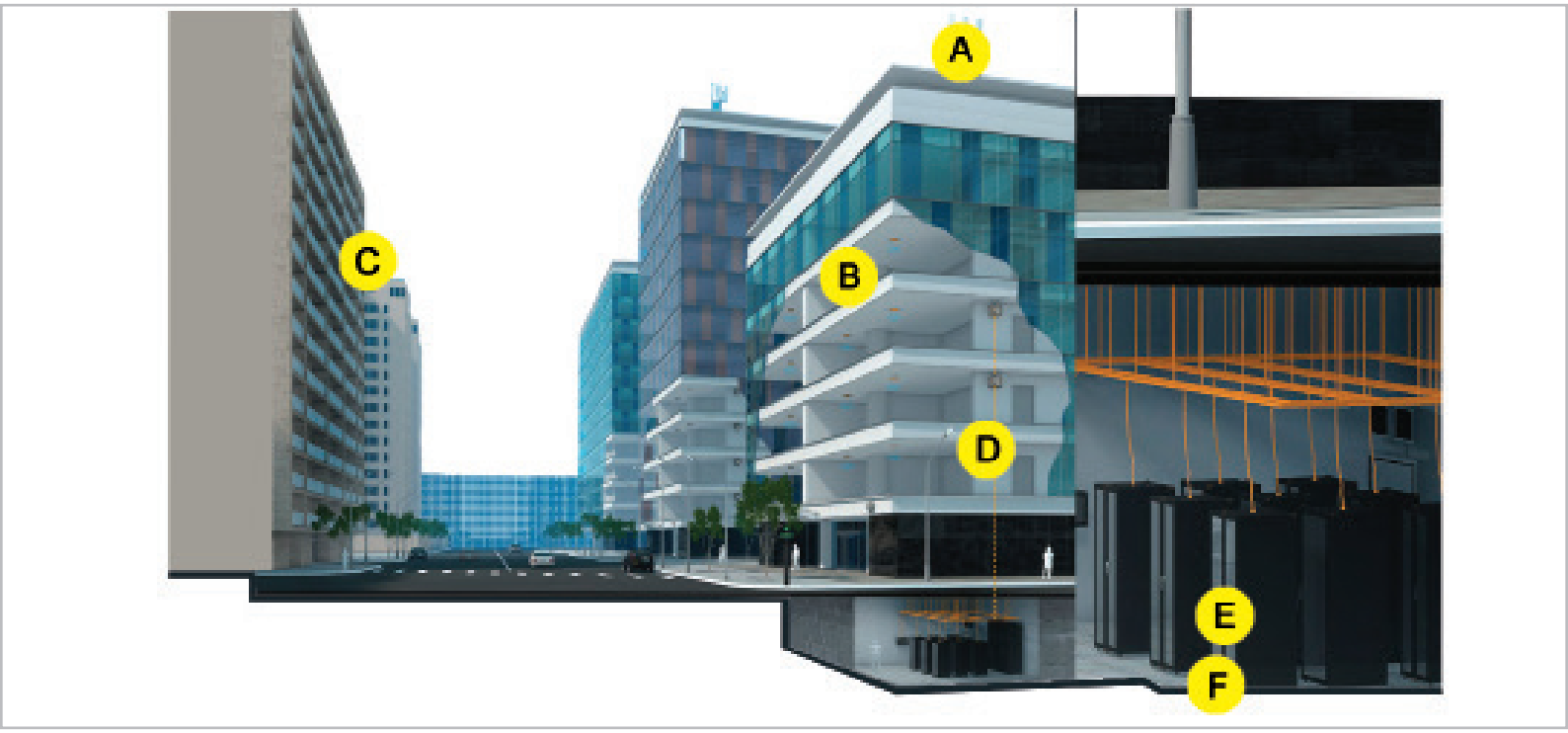
use of special transmission lines in this system will have complex calculations. Although the implementation of the musical fountain system from simple single-directional types to cinematic screens and multidimensional images is possible today, due to the high pressure, humidity, and water, the design of this system is a little complicated. The improper design may lead to failure in the maintenance process.



HOUPIRAN

Network / سیستم شبکه داخلی
شبکهٔ الاتصال / сеть
Ağ

Nowadays it is possible to use all communication and information services on the internet and intranet. Mobile cellular networks, cable and fiber-optic communication infrastructure, microwave and wireless radio can be used for connection to this system. Any user has access to the network through the cellular structure of GSM or the local copper cable or wireless network. Using any kind of technology has its own disadvantages and advantages. The communication scenario is always designed and implemented based on the type of use, received services and the number of users.



A This system enables us to provide the subscribers with the 3G mobile network via WIFI connection.

B Access point operates similar to the switch, and sometimes the router on wireless networks.

C Point-to-point communication uses satellite waves to transmit information between two endpoints.

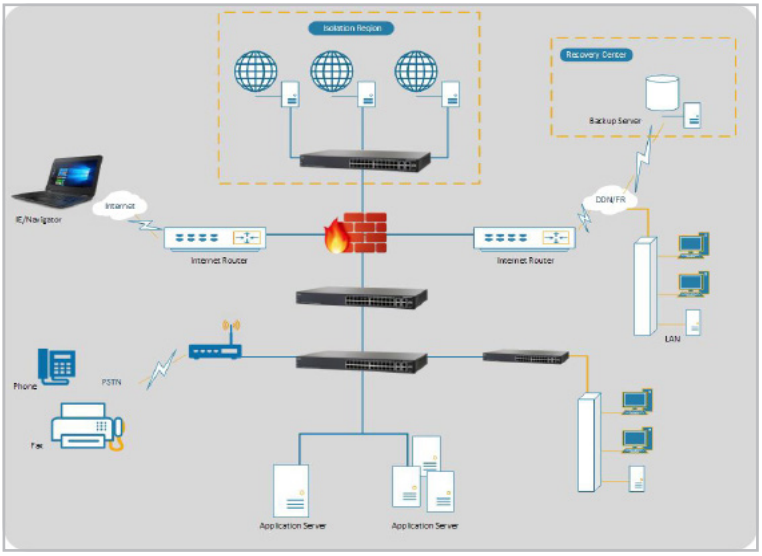
D Routers are devices for connecting various broadband networks.

E SDH establish reliable communication without interruption in distances, connects various units of a large industrial complex such as rig and oil wells, the control station for power transmission lines, oil, gas, and petrochemicals industry, and allocates the required speed to various routes.

F Second-layer switches are the heart of stellar networks; their task is to transfer the traffic; other network devices provide the equipment and users with access intranet and internet.

By mastering various types of communication networks, Houpiran is committed to providing sustainable and secure services to the beneficiaries.
Today, the use of local networks based on copper, fiber optic, and wireless technology is common in apartments, office, commercial and industrial centers. These networks are required to transfer information and establish secure, stable and high-quality communications. Mobile networks are not much used due to the cost of services, the limited ability to provide special services to users, the low quality of regional equipment, inability to perform monitoring, and the inability to create local networks. However, the main connection of local networks with the internet or intranet is possible in various ways, such as mobile networks, pair cable, fiber optic cable and River cable. Wireless or copper networks have a wide variety of designs and capabilities. The more developed the organizational needs and the number and type of users and offices became, the more equipment will be required

and the design accuracy should be increased. Specialized software should be used for simulation, to design these networks. The bandwidth is calculated based on the link's usage, and the number of active and passive devices is determined. Also, security of networks is prioritized because of the importance of communicating and protecting the information of individuals and organizations.



سیستم تردد و موقعیت یابی / Navigation & Tracking Management
إدارة الملاحة والمتابعة / Управление навигацией и отслеживанием
Navigasyon ve Takip Yönetimi

Tracking, routing and positioning systems are widely used on a wide variety of applications. Houpiran is trying to achieve the objectives of the beneficiaries by providing extensive services in the areas of tracing rare species of animals in the environment, studying animal behavior, tracking and positioning of vehicles, routing and urban guidance, analyzing the behavior and performance of personnel and individuals in administrative and urban environments, calling people and the staff based on the location, examining and making sure of the location of equipment in museums, examining and tracking expensive

A By attaching tags to personnel's clothes or mobile phone, we can to identify the route they have traveled and help them on special occasions.

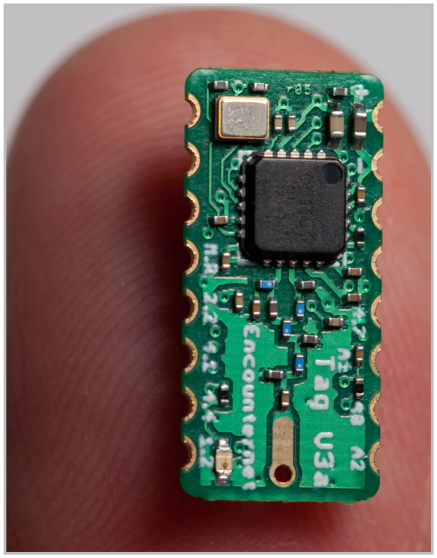
B We can use the RFID tag to open and close the barrier gates and to facilitate vehicle entry and exit.

C By providing guest cards, we can allow guests to access special places or prevent them from entering other places.

D Considering the price of equipment and their specificity, we can use tags to find their location or to ensure the transfer of an asset from specific areas.

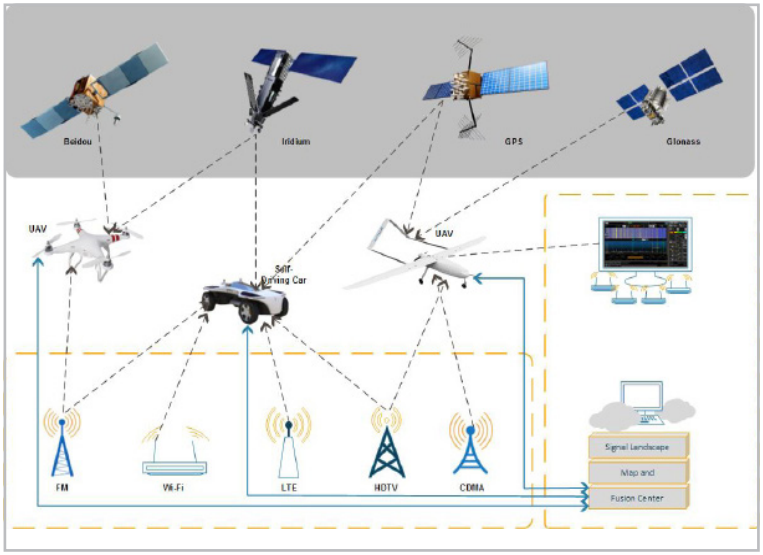
E Collecting data from all available tags in the project, analyzing data as well as integrating with other systems is the main task of the system.

F Identifying vehicle location and showing traveled route, and identifying hazardous situations



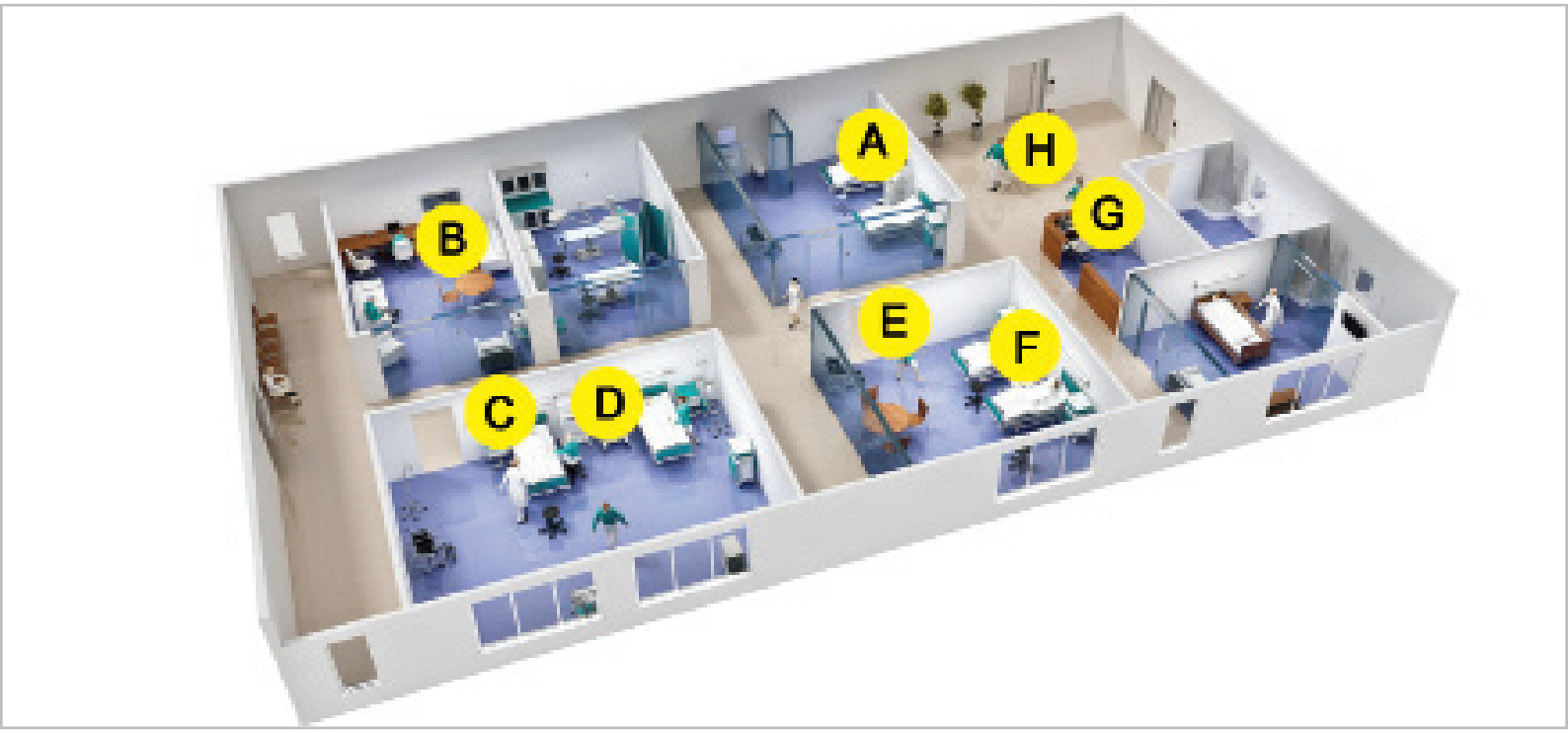
equipment and dozens of different uses.
Verifying the location of equipment and ensuring of availability, preventing the removal of many valuable items, and the study of the performance of staff, as well as the tracing of living things in the outdoor environment, have been one of the important and expected issues facing the managers. The design of tracking, routing and positioning systems can be provided with different technologies. Therefore, based on the type of use and the expectations of the design, a solution is selected and then the simulation is done to verify the system's capability. Implementation of tracking and management systems in indoor spaces is carried out using wireless technology and smart tags and in particular a combination of these two or Bluetooth receivers. Satellites, cellular systems, and radio waves are widely used in a vast geographical area. Today, artificial intelligence programs use intelligent systems to analyze different items and provide accurate reports. One of the important indicators of automation and signaling of pro-

cesses is to know the exact place of things. A careful study of the location of vehicles will allow us to manage and automate the processes. The system will also enhance the safety of objects and devices with the help of security systems. Today, these equipment has been very effective in taking care of the elderly and patients. Houpiran is committed to providing intelligent routing and tracking services to meet the objectives of the beneficiaries.



Nurse Calling / سیستم احضار پرستار
Вызов медсестры / ممرضة الاتصال
Hemşire çağrı

Nurse call systems have been created to facilitate access to medical staff in hospitals or personnel in large and crowded complexes. The system accurately displays the position of people on the monitor. It is also possible to send messages and requests to individuals separately and there is no need to use public announcements. In this system, it is possible to use real-time tracking for any person at any time, and check the routes traveled according to different times. This system dramatically



A Calling and asking a nurse the required information

B Using RFID tags to track staff and smart calling

C Two-way voice communication from patient room to nurse station and healthcare team

D Integration of patient health status monitoring systems with other systems such as nurse monitor and ERP

E Special panels are used to announce various situations in the hospital

F Online patients' health checking is possible by sending wireless tag information to the nursing staff.

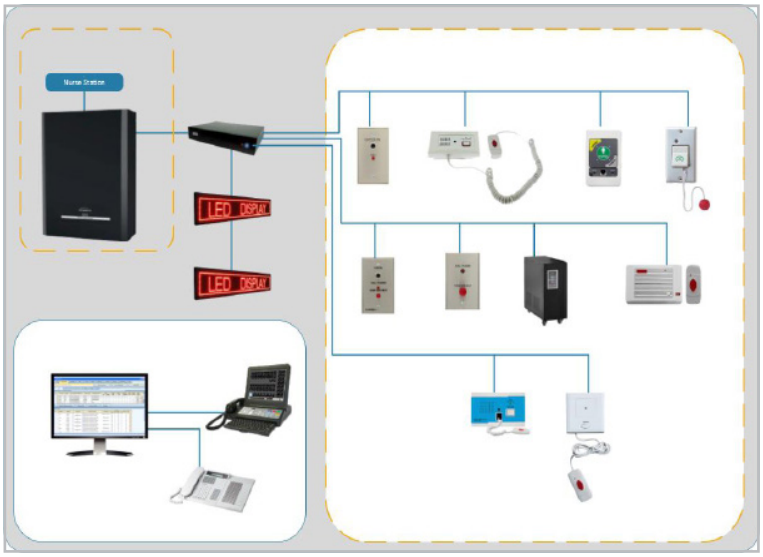
G Using an integrated system to determine the drugs given to patients as well as the availability of all patient information such as tests and images

H Notification of unauthorized asset and device exiting on smart panel

increases staff performance in a group of businesses.

Nurse call systems are designed differently according to the type of technology. Nurse call systems are used to communicate the patient problem to the nursing home, which is one of the easiest systems. Today, the ability to track and send messages, without geographical constraints, and access to wireless or GSM networks, has made it easier. The information such as the number of personnel, building network, the area under system coverage, and the operator's expectations are required for the design and management of the system. This system is the perfect solution for solving management problems and easy access to personnel in hospitals, out-of-area personnel, mine workers, doctors and surgeons, project managers, large governmental agencies, branch offices, oil platforms,

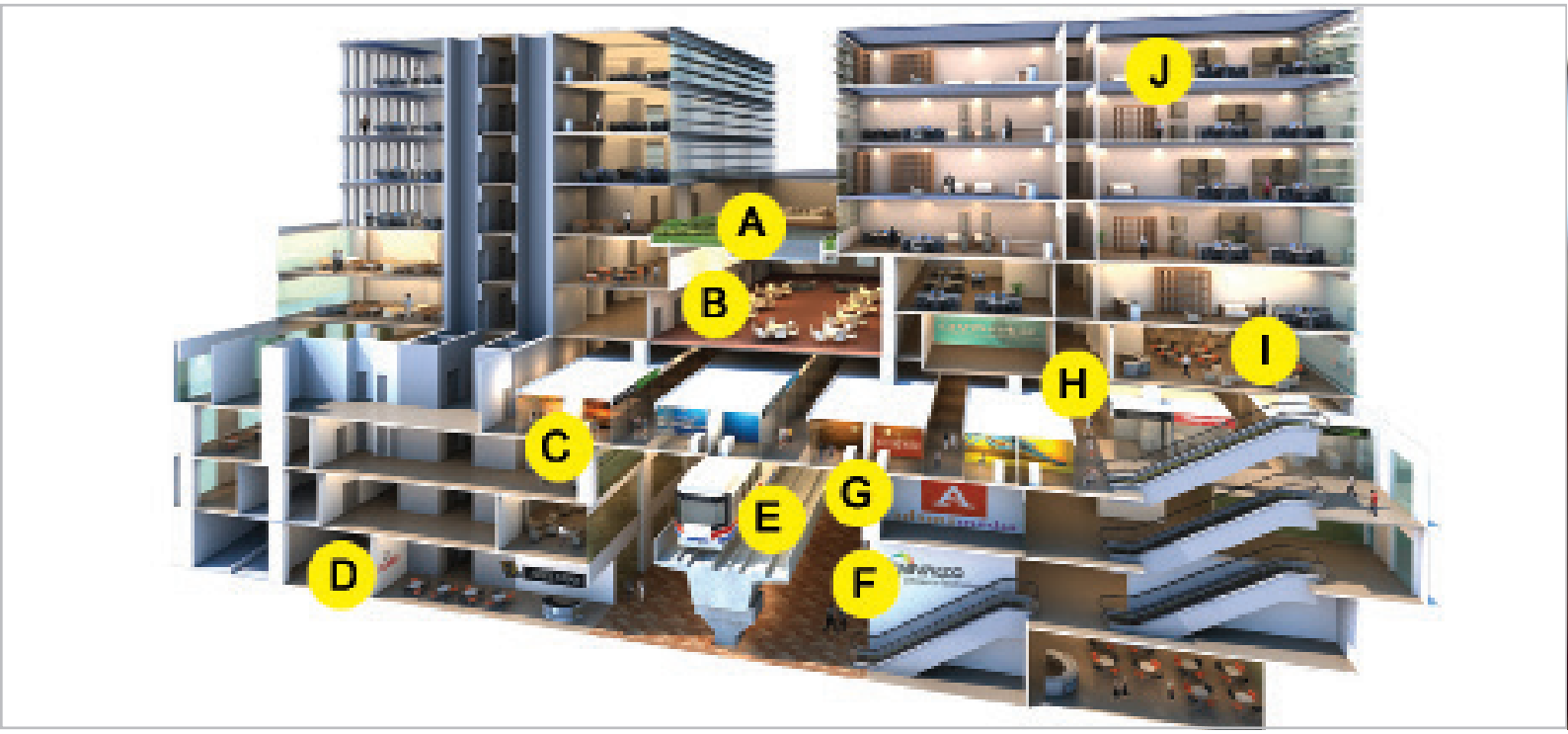
large factories, security authorities, administrative drivers and management jobs. Houpiran is committed to providing different services to employers with careful attention to the needs of the beneficiaries and the combination of infrastructure and software systems.



HOUPIRAN

سیستم صوت و پیج / Public Address
العنوان العام / Публичный адресс
Açık adres

The use of a public address system is required in most places via monitoring rooms. At the same time, considering the use of places, it is essential to play music to produce a greater state of relaxation and create added value for the beneficiaries. Simulating audio arrays for various locations and acoustic calculations is a very important principle in locating and implementing sound systems. Provision of specialized solutions for the implementation of professional public address systems in various industrial, military, sporting, artistic



A Installation of speakers resistant to atmospheric factors with the ability to play pleasant music in green spaces, gardens and outdoor spaces.

B Main features of this system are its beautiful design and its ability for dispersing the sound in all directions. Other features of this audio array are to perform acoustical measurements in large halls and religious places.

C Calling and paging in buildings by the intercom is necessary for various condition.

D Installing the speaker in underwater space and playing music provides us with one of the most enjoyable moments.

E Microphone for detecting ambient noise detects distortion and adjust the volume of the audio output of the amplifier automatically in industrial centers and busy places.

F Industrial speakers with features such as playback, paging and intercoms are available for two-way communication in busy places.

G Dispersion of sound in noisy places with high altitude makes it easy for hearing.

H It is suitable for any type of interior architecture; built circular and square in shape

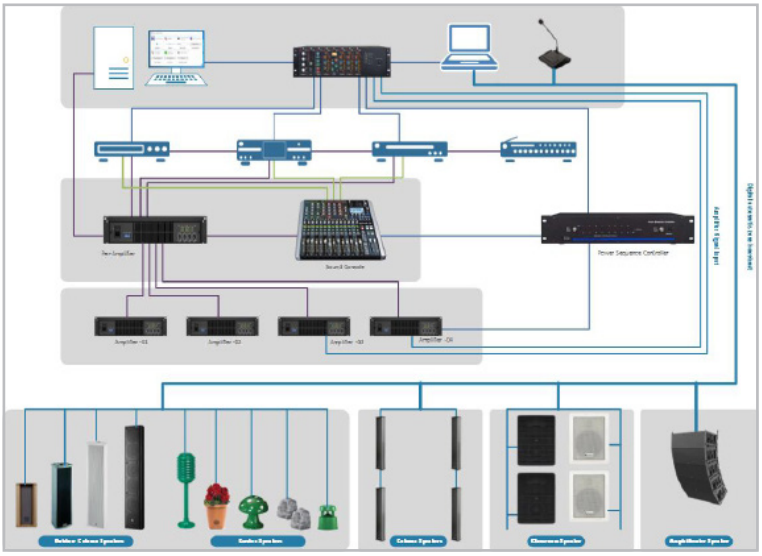
I A decorative design, floor stand made for home, restaurant and coffee shop, business recreation, and cultural centers.

J Column speaker with impact resistant steel body, used in paging and information system.

and recreational centers, and offering extensive communication plans for centralized management, crisis control and to create peace of mind by music is possible in Houpiran.

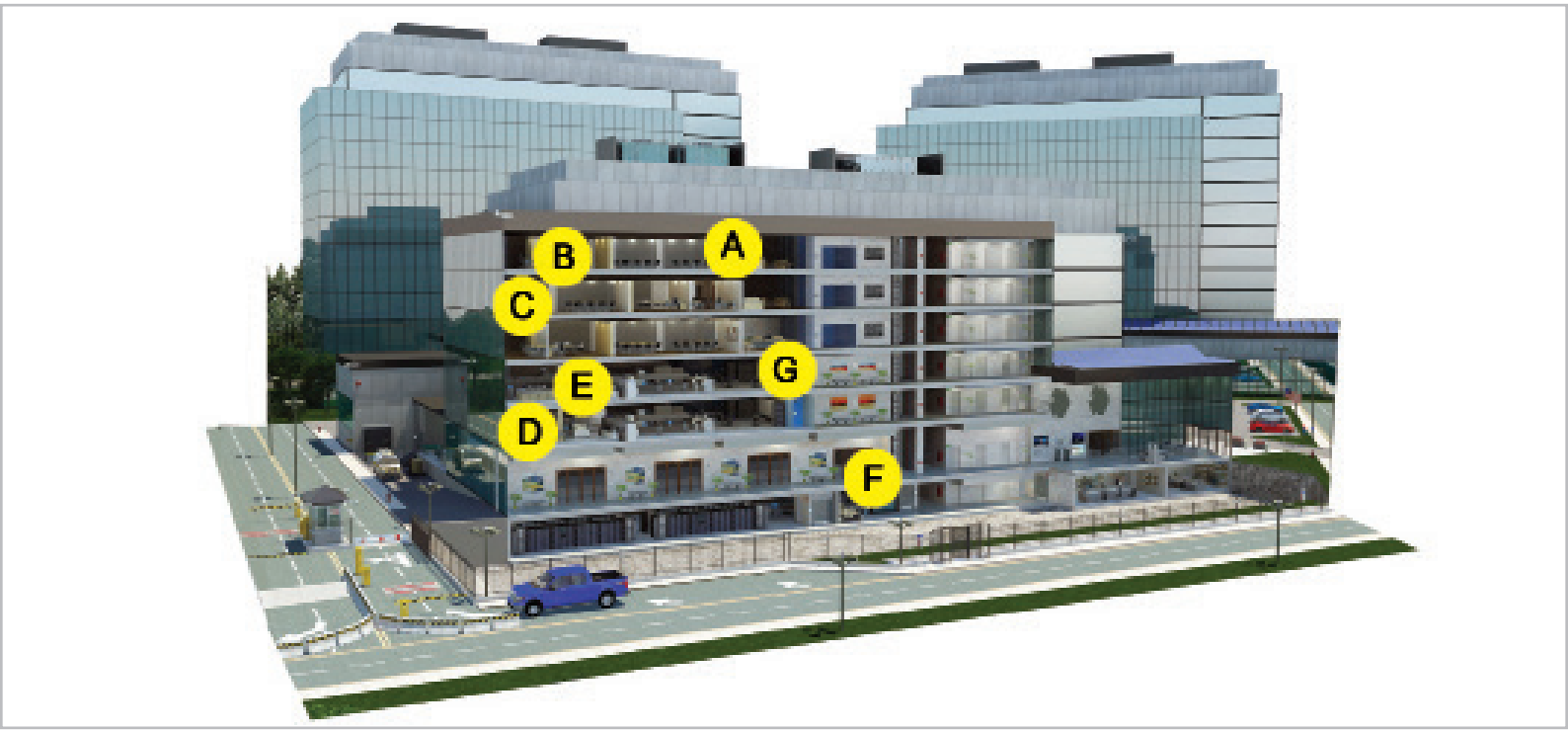
Audio systems have a direct relation with building architecture. The architecture of a building and its interior decoration changes the distribution patern of different types of sounds. The change in the reflection and the difference in frequency return reduces the sound quality and add noise to it. In most places, sound parameters are important for music playback as well as news and announcement broadcast. Therefore, the simulation process in acoustic software is required to select the best audio arrays and their exact layout. In addition, the audio arrays are in harmony with different places and their beauty. Integrating speakers inside building materials such as rocks and wood camouflage them and increase the sense of nature in artistic architectures. The amplifiers and developers in the audio

systems transmit sound to the sound arrays correctly. They also enable data transfer and integration on the network. The integration of this system with the fire alarm system is of great importance for intelligent warning and building evacuation. In addition, the ability for integration with advertising and information systems, entertainment and video surveillance, and security and safety systems improves system synergy.



سیستم تلفن PBX / Ip Pbx Internal Telephone
نظام الهاتف PBX / Телефонная система PBX
PBX telefon sistemi

Telephone centers are of particular importance in various businesses and industries. Today, the main pillar of most of the activities or the continuity of most of them depends on communication. Smart connections also replace simple voice communications. With call management, call centers are trying to satisfy customers. Meanwhile, these systems eliminate geographic and equipment constraints and allow conversations with anyone anywhere in the world. These centers are able to be integrated with other needs of customers. Houpiran is committed to implementing a variety of network-based communications services to satisfy the needs of the



A It is possible to provide the users with the ability to create visual communication (training, meetings and online conferencing) in an independent and stable way and appropriate speed.

B Sending, receiving, and smart scheduling of fax functionality is possible by software and email.

C This feature provides the conferencing environment for two or more users, and other users can also join it.

D Using this service, stable and of good quality video and audio communication is possible under the network

E By installing the software on your PC, you can use this system and have a stable connection.

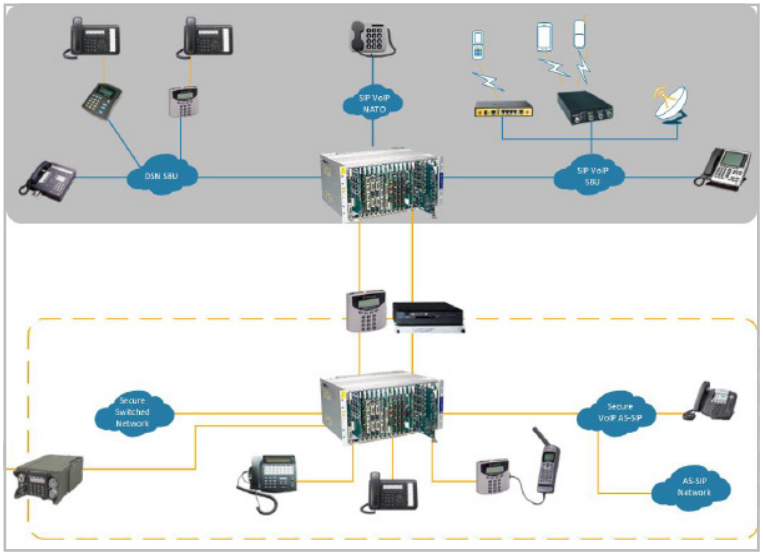
F With the help of the software on the smartphone, you can access the network-based phone system.

G Interactive voice response (IVR) is a smart response system with features such as the ability for defining various types of communication, the response in many languages based on the dialed number, queue call back, and hands-free calling

beneficiaries.

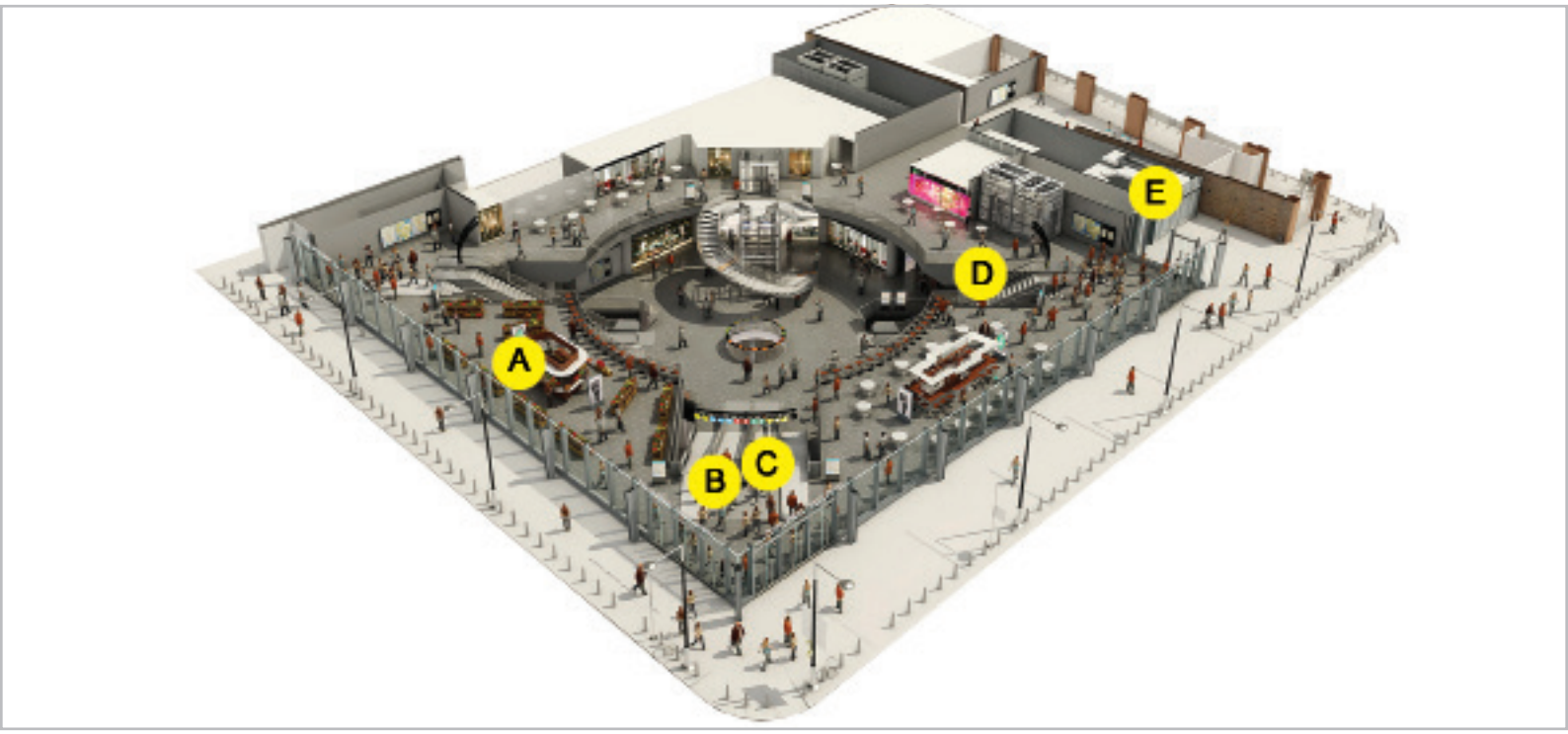
Today, call centers are available as analog, networked, and interconnected. Although many of the telephone centers services are provided by landline and mobile operators, such centers operate in all organizations, companies to manage costs and make free internal calls. Previously, the task of pair cable analog systems was, on the one hand, the communication with the internal phones, and, on the other hand, connection to a variety of telecommunication lines, including pair cable and E1, etc., through the control center. Today, networked systems have become one of the tools for generating value added for business owners with their unique capabilities. This system solves the problem of distance and geographic constraints and allows the possibility of making internal and external calls by any operating system with internet or intranet network. With its VOIP feature, the system can perform tasks like video conversations, video conferencing, recording and emailing conversations, auto answering, waiting, diverting, and more. Cheap and small hardware, as well as free software,

make the system cost-effective. Also, multiple gateways for connecting to SIM cards, analog lines, network lines, internet, and the like have expanded the system and developed its use to any model of telecommunication conditions. Using this system, offices of organizations in different parts of the world can be connected together for free. In networked telephone centers, it is possible to integrate the system with resource management software such as ERP, CRM, etc.



People Counting / سیستم شمارش افراد
Подсчет людей / الناس العد
İnsanlar sayma

Knowing the number and type of traffic in the streets and buildings or outside areas and reviewing the results expands the manager's planning ability in various aspects. This system is one of the methods of analyzing the increase of value added in various commercial, administrative, cultural, social, environmental and industrial projects. Using accurate information, planning facilitates the achievement of the goals of any organization. Using different technologies, the accurate people counter and footfall measurement could be carried out in various places. By offering the best solutions



A Analyzing the peak traffic period, and providing the highest sales figures by location

B Customer group counting, for example, couples, family, etc. for behavior analysis

C Counting all people and vehicles at entries and exits or important places

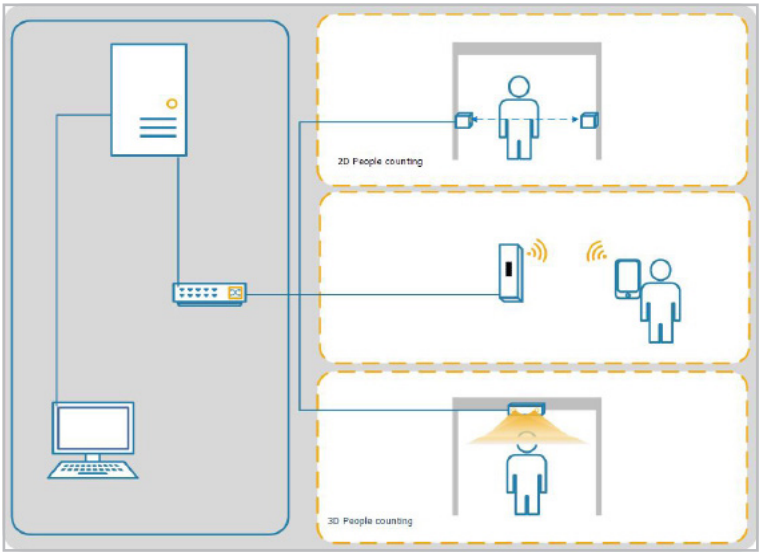
D Analysis of store sales with good performance, optimization of the performance of retails, customer behavior analysis and productivity enhancement

E Optimizing the performance of employees according to the number of visitors and meeting their needs during work hours

for counting and analyzing traffic and integrating with other systems, Houpiran expresses its total commitment to the managers.

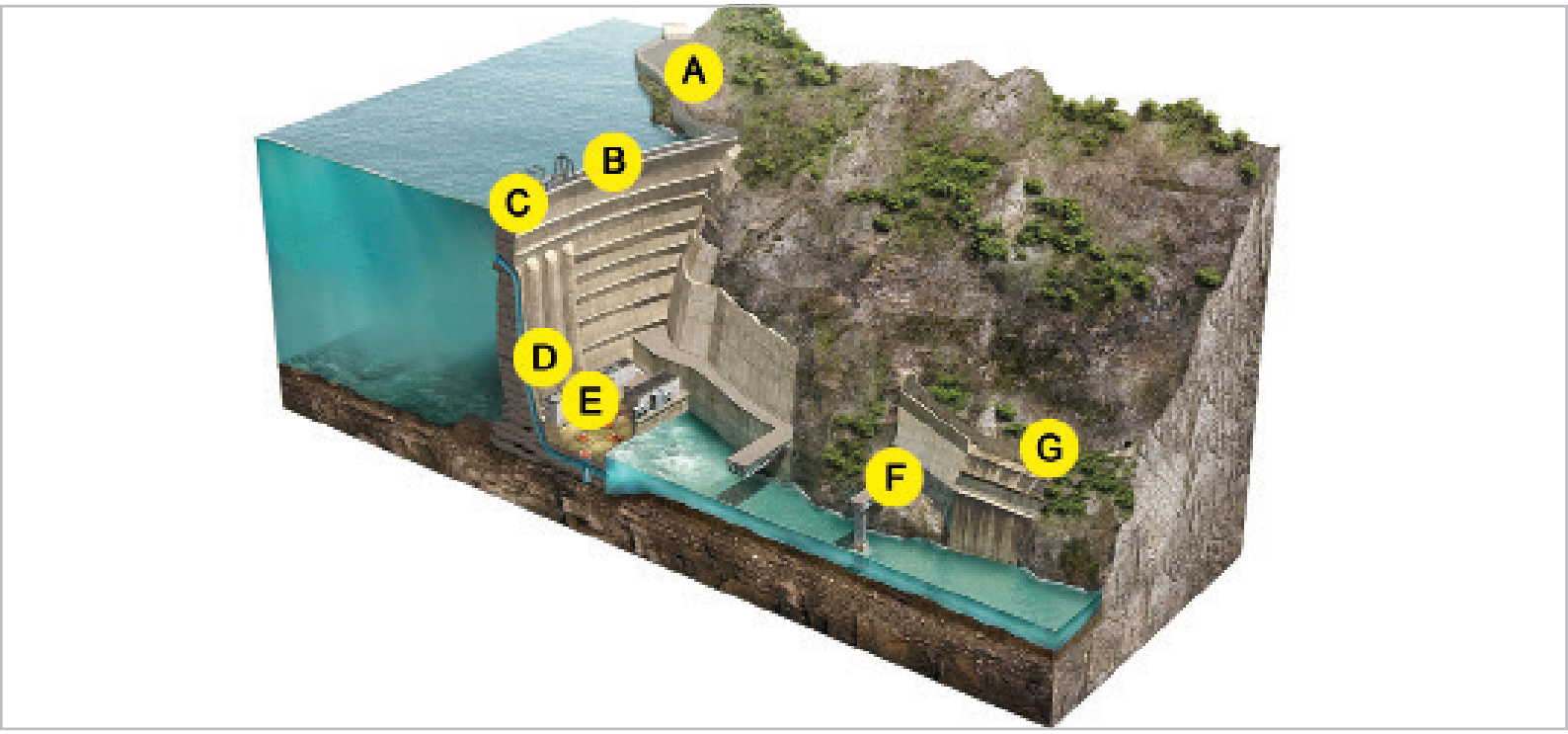
Counting systems for various types of creatures and vehicles are defined and used to analyze and accurately examine the area in question. These systems are designed in a variety of different technologies, depending on the type of user and customer requirements. Linear systems such as laser and infrared are commonly used in vehicle counting. Nowadays, multidimensional cameras analyze the potential errors in the traffic with detailed image processing and extract accurate data. Data analysis in counting and traffic control systems is usually more convenient with the help of the information gained from another integrated system. With the help of the behavior analysis intelligent system, people counting system examines the needs and interests of customers in commercial and administrative complexes and creates added value. In the environment, animal traffic is processed through video surveillance

and RFID systems. Today, with the help of artificial intelligence, video surveillance cameras are capable of analyzing and counting the footfall activity accurately. Crossing any line is defined virtually for central control and monitoring programs. People counting system is used in urban monitoring systems, museums, and traffic control systems, but it is not capable of scrutinizing and differentiating the details of the images.



سیستم حفاظت پیرامونی / Perimeter Intrusion Detection System
نظام كشف التسلل المحيطي/Система обнаружения вторжений периметра
Çevre İzinsiz Giriş Algılama Sistemi

Intrusion to places and access to equipment, information and valuable items has always been a concern of a wide range of businesses. The use of hybrid technologies, which is created by the integration of multiple systems, has led to the improvement of systems efficiency. The use of intelligent perimeter intrusion detection systems and the protection of this equipment against atmospheric conditions and environmental and animal damages, as well as the improvement of the quality of surveillance systems, has always been a concern for the designers of the Houpiran Group. The implementation of various perimeter protection solutions and



A By using the fence in specific areas, the exact point of the intrusion is detected, if someone passes through it.

B In places where this type of cable is used, the intensity of magnetic waves changes by the people who cross that location; and sensors can detect unauthorized access.

C By installing a fiber optic cable in underground conduit on a specified path, it is easy to pinpoint the precise or approximate location of people.

D This type of system is sensitive to temperature variations. With the slightest change in temperature, we can detect humans or animals in the environment.

E In large places, it is not possible to install a large number of cameras for monitoring; therefore, it is possible to increase security levels by using the unauthorized entry detection system and integrating with a limited number of cameras.

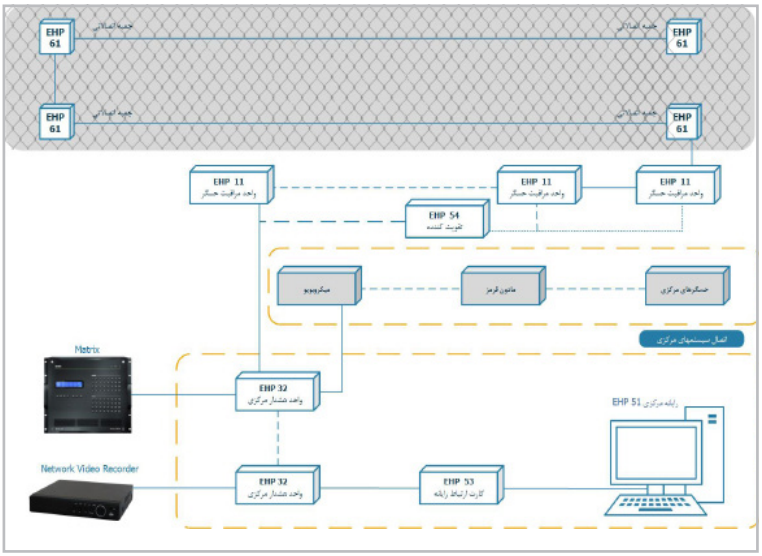
F This system can be used for highly accurate detection of people in the desired environment and identifying the unauthorized entry.

G By installing the microwave equipment near the area in question, the intrusion of individuals or animals is detectable.

technologies, in the form of alerts, unauthorized entry, physical warning, and announcement, complicates the implementation of this system.

The design of intrusion detection systems is of direct relevance to the type of potential risk, location and the percentage of intrusion risk. A sustainable technology or a combination of different technologies are always used to reduce the risk of intrusion. With regard to the needs of the protected area, these systems react against any attack or intrusion, with the announcement, warning. Depending on the type of selected technology, the radio simulation and accurate calculation of the coverage of the project environment are carried out. Integration of intrusion detection system with other security systems, including video surveillance, radar, and access control and monitoring rooms, is one the requirement for the design of the system to accurately track incidents in large environments. Today, intrusion detection systems use network infrastructures. Taking into account the large area of many industrial centers and the need for communication infrastructure, a number

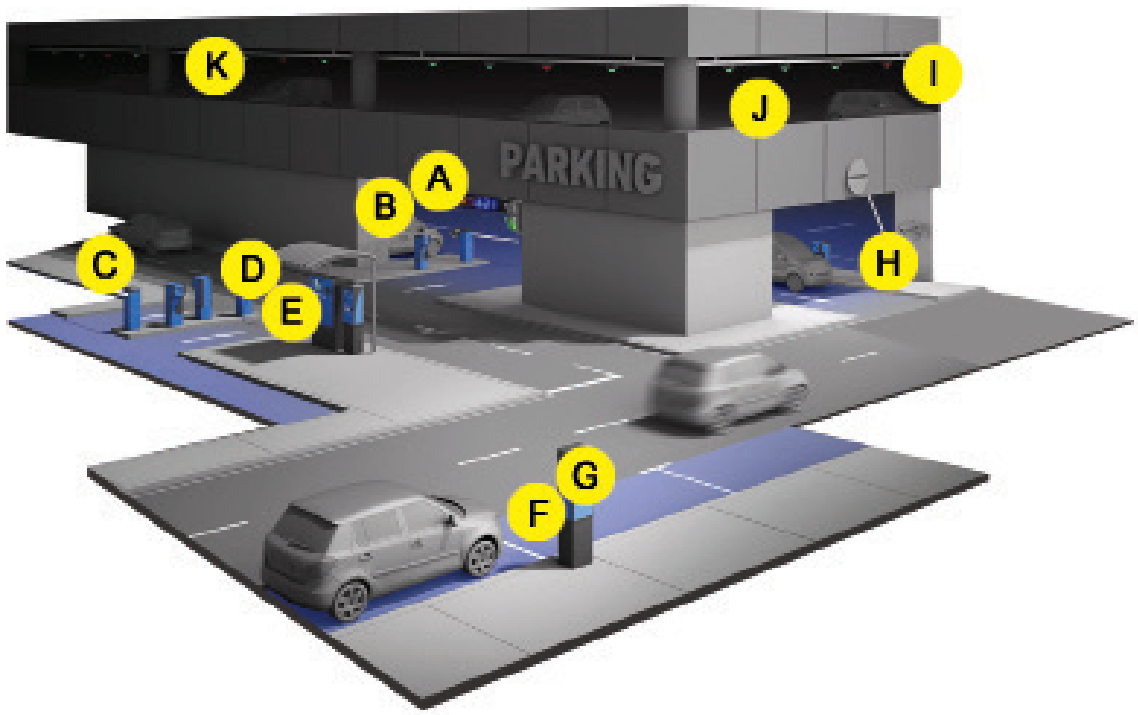
of developers have proposed broadband platforms to provide the intrusion detection equipment with communication lines. Such lines are also able to provide the communication platforms of other systems. Today, fiber optic technology is mostly used in intrusion detection systems. Sensors for vibration detection, magnetic effects from motion, temperature, vibration, laser, infrared waves, and microwave are also the technologies used in these systems.



سیستم پارکینگ هوشمند / Parking Management System
نظام إدارة مواقف السيارات / Система управления парковкой
Otopark Yönetim Sistemi

Intelligent Parking System

The design of intelligent parking management system could be performed based on visual, ultrasonic and laser technology. The type of parking lot (covered or uncovered), as well as the technology required by the beneficiary, used to monitor the license plate will affect the choice of system type. Parking height and distribution method will also have a significant impact on system design. Smart payments



A The signs show the number of empty spaces in various parking lots and guide the driver optimally.

B Registering the detailed information of license plate, and periodical payment of fees is provided for visitors.

C Identifying issuing the vehicle exit permit with the license plate, and paying the fees by bankcard.

D Smart payment of parking fee by bank cards or in cash is one of the benefits of the automatic payment system.

E Passenger guide machine provides the possibility to search the parking space with the license plate.

F The electromagnetic sensor is responsible for checking the availability of a car in the parking lot.

G Identifying and examining the vehicle entry permit to the parking lot by issuing RFID card, as well as the registration of the number plate and the time of entry into the card

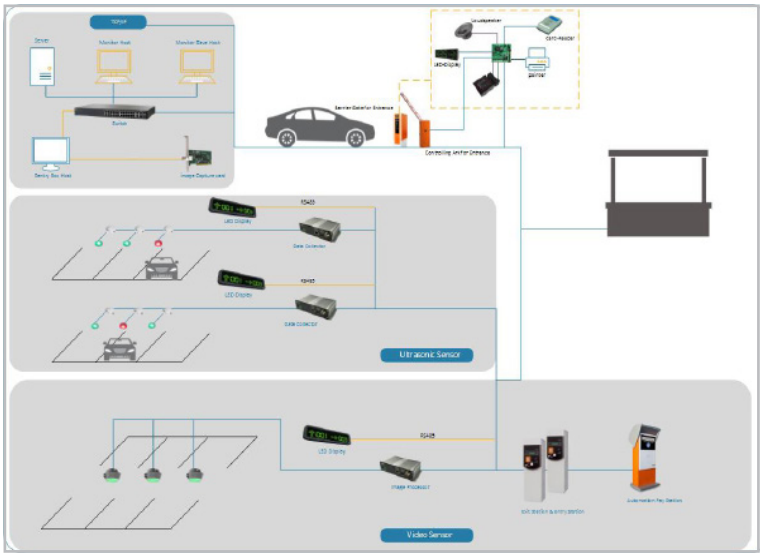
H The barrier gates provide the possibility of entering and leaving the various parts of the parking lot intelligently.

I One of the tasks of smart cameras is the identification of a car license plate; in addition, determine the occupancy states and match the parking permit with the license plate.

J The parking management software installed on the smartphone is able to pay and locate the car parking.

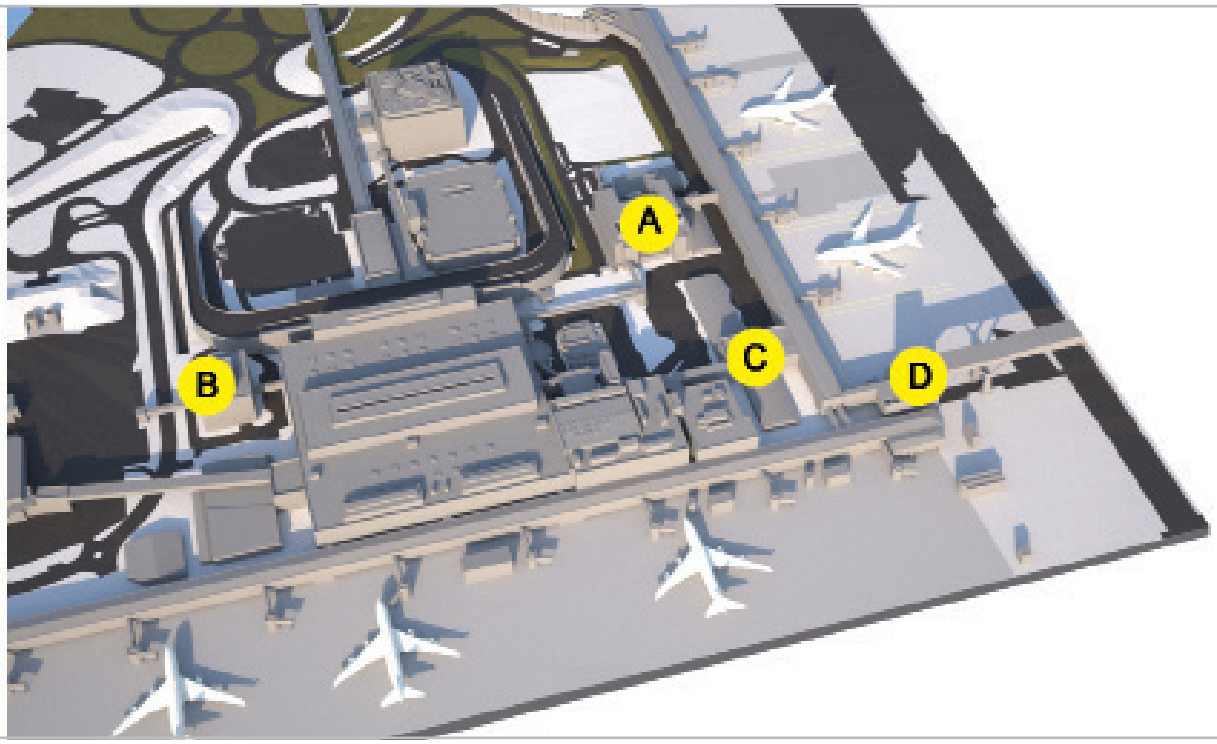
K The display shows the parking location to the driver.

by bank cards or credit cards, as well as offering special non-paid parking lots by smart tags, are the benefits of this system. Houpiran tries to reduce the traffic and gain the satisfaction of all customers, by accurate design and layout of equipment and signs of this system. This system has a fairly large amount of equipment inside the parking lot. Therefore, choosing the exact location of the installation will reduce the system error. The detailed management records of the system, including the number of vehicles, parking type, the amount of income by date, day and time helps to make decisions in the management of these places.



رادار / Radar
رادار / радиолокационный
Radar

Hi-tech radars with special frequencies are capable of detecting and observing humans, living organisms and moving vehicles to enhance the safety and monitor the surrounding area. These radars are usually used with video surveillance systems with tracking ability. The depth of vision, removal of atmospheric limitation, lack of dependence on light and image requirements, precise radar tracking allow us to have a high-quality image and prevent error in security and protection systems. Houpiran is responsible for examining and selecting the right equipment and producing design and



A The task of radar is to check and control entry and exit to specific areas with a high level of security and it has an unauthorized alert system.

B Considering the weather radar can detect atmospheric phenomena at higher altitudes with high precision, this allows the pilot to become aware of any problem prior to arriving in an area with inappropriate weather condition and make the necessary decisions.

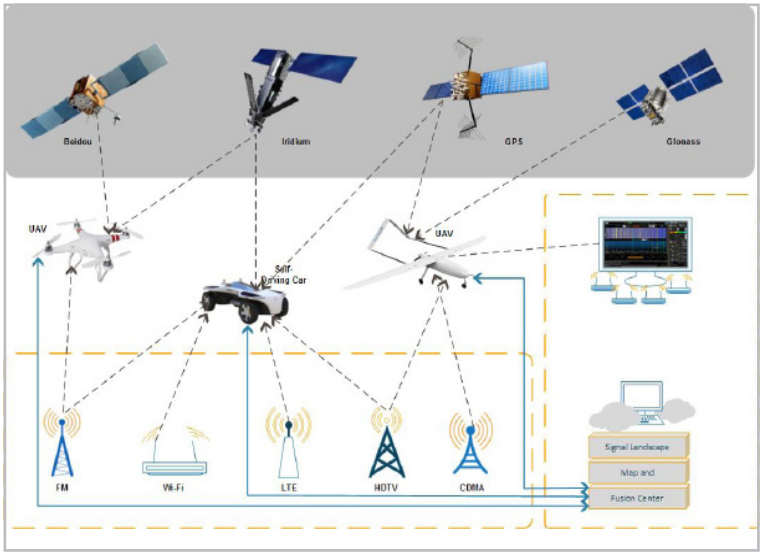
C The radar 800 to 2,500 meters range is commonly used to detect humans, animals and cars.

D With the integration of a video surveillance system and thermal cameras, advanced tracking radars have a high degree of precision in detecting and tracking all kinds of subjects in the periphery.

simulation to meet the project's goals.

The use of radars has always solved many of the security challenges for the beneficiaries in different parts of the world. The features of Hi-Tech radars have expanded their use in the railway, air, land and sea transport industry, as well as military and security industry, oil, gas and petrochemical industries, the environment, public places and passages, urbanization, energy, and mining industry. The simulation and operation of the radar frequency, its type and, finally, the requirements of the installation are effective in its optimal use. Integration with other systems, including video surveillance, intrusion detection, and central control and monitoring rooms, and other systems, are of particular importance for tracking subjects. These radars usually have the ability to transmit data over a network. For its protective purpose, the appearance of this family of radars is designed like a secret hat or park lights. The depth of the radar field is usually between 600 m to 2 km. In the implemen-

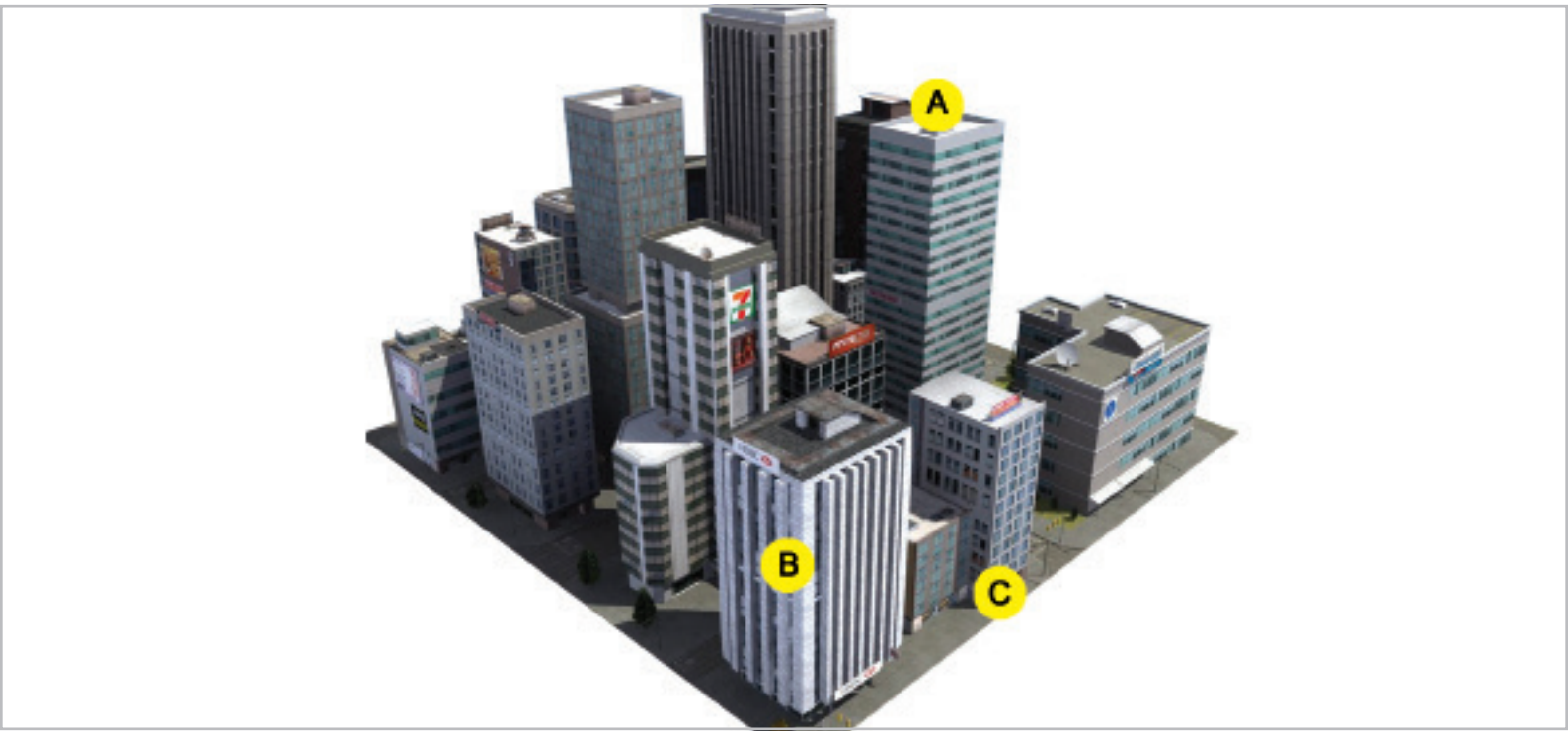
tation of equipment, the possibility of overlapping and tracking of the subject between radars will be possible. We have tried that the equipment put the least harmful impact on a human being, due to the use of this equipment in urban areas. The coverage of different types of radars is extracted using various graphs. Various land parts can be covered by the radar by changing the angle of installation of the equipment.



HOUPIRAN

Radio Wave / سیستم رادیو فرکانسی
Радиочастотная система / نظام تردد لاسلکی
Radyo frekans sistemi

The implementation of safe and high-speed transmission lines is not always possible with fiber optics. It is often difficult or even impossible to dig a trench in urban or industrial areas, or the costs of implementation of these lines are very high, and not economical for the intended uses. In this situation, radio and microwave are used to connect various locations. Microwave links have the ability for point-to-point transmission of data, and other radio systems have the ability for point-to-multipoint transmission of data. Also, Trunked Radio Systems, which, similar to mobile systems, have the ability to transfer information



A A microwave system is a network used as between two or more places with geographical features, located far from each other, where the implementation of the optical fiber is not possible.

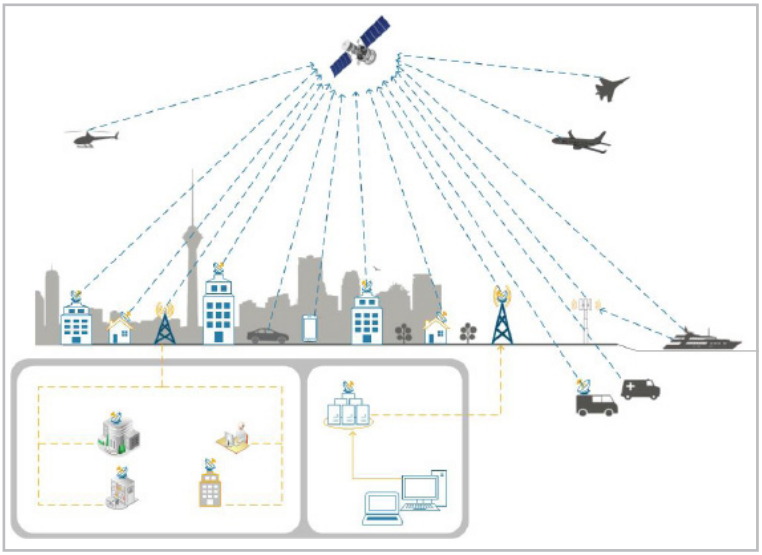
B This system can be used to establish internal communication among different organizations such as firefighters, law enforcement agencies and other organizations.

C In basements and tunnels where point-to-point antennas cannot be used, this cable is used to transmit various types of waves needed for wireless, trunk and mobile networks.

between users based on geographic and cellular locations offer broad communications services. Houpiran is committed to providing secure and stable communication networks to employers.

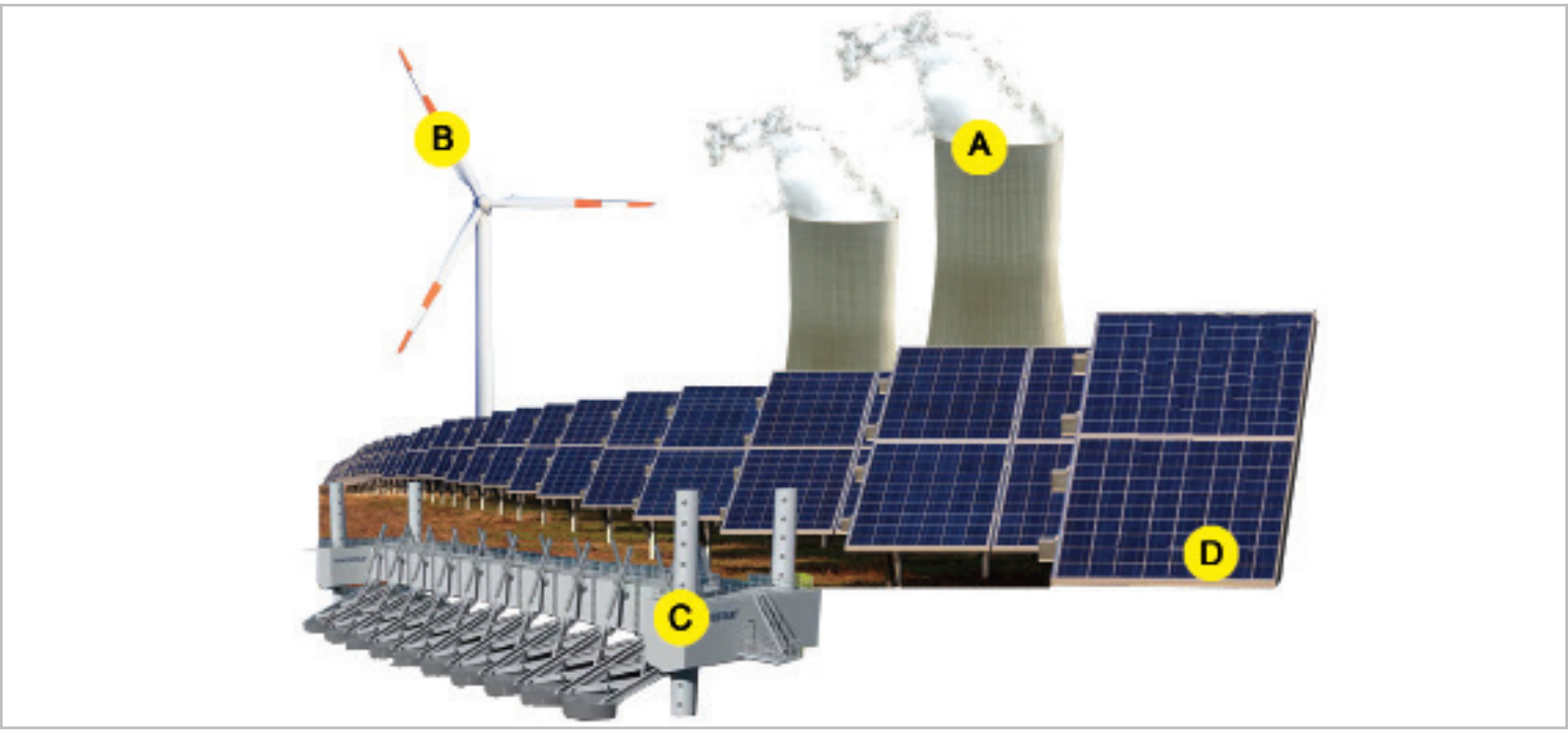
Wireless communication lines are produced and provided in a variety of different technologies. Each technology has a specific functionality. In most cases, obtaining the necessary permissions for implementation is mandatory. The simplest communication system operating on free frequencies is conventional wireless systems. By reinforcing the radio and using directional antennas, data can be transmitted in a single direction and long distances up to tens of kilometers. Radio Microwaves, with the help of its specific antennae, transmits information at a point-to-point basis over long distances and with the necessary quality. In large networks, other radio systems are used to transmit data from one center to multiple points or it is used for regional coverage. In wireless systems, antenna coverage and simulation of equipment installation areas are required

according to geographic graphs; otherwise, it would be impossible to guarantee the link quality. Determining the desired frequency for all of these systems is confirmed by the concerned organizations. Also, the ability to uplink and wide coverage can be freely available through the second frequency in wireless systems. In all of these cases, the bandwidth requirements and the quality assurance of transmission lines are of particular importance.



سیستم انرژی نو / New Energy Systems
Возобновляемые источники энергии
Yenilənə enerji / الطاقة المتجددة

In recent years, energy has been one of the most important subjects of debate in the world. Moving to urbanization and the activity of thousands of systems and equipment along with the necessity to respond to the basic human needs has caused a significant increase in daily consumption of energy. The main sources of energy in the world have been fossil fuels till now. In addition to the decrease in fossil fuel resources, they have also adverse effects on the environment. In the meantime, the renewable sources of energy such as the sun, wind, water, earth,



A Unlike other renewable energies, geothermal energy is a stable source with 100% availability that can be used throughout the year around the clock.

B Wind turbines convert wind energy into mechanical power, and this mechanical power is transmitted through the shaft to the generator and finally, electric energy is produced.

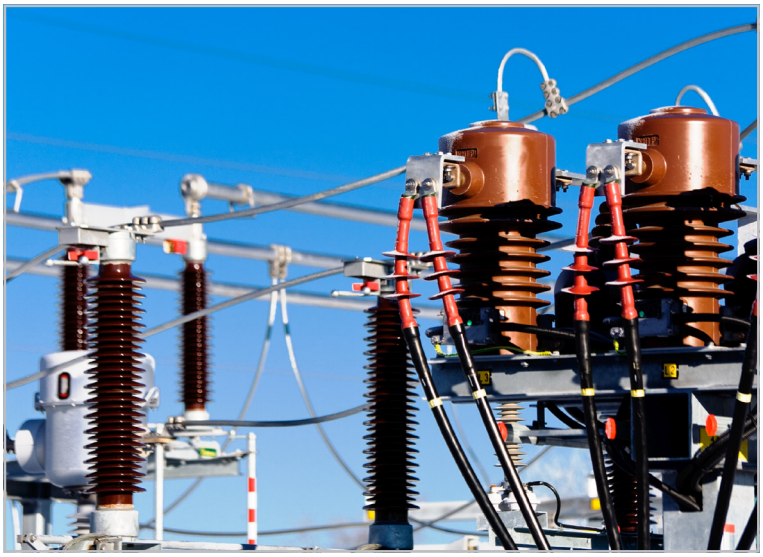
C A turbine installed perpendicularly to the water flow direction in the seabed or hanged from a floating platform can convert tidal energy into electrical energy.

D Sunlight is the largest source of renewable energies on Earth, and the sun is a huge source of energy.

and the like are among the various methods to produce clean and free energy. Houpiran is committed to create and develop a framework for generating such energies to protect the environment.

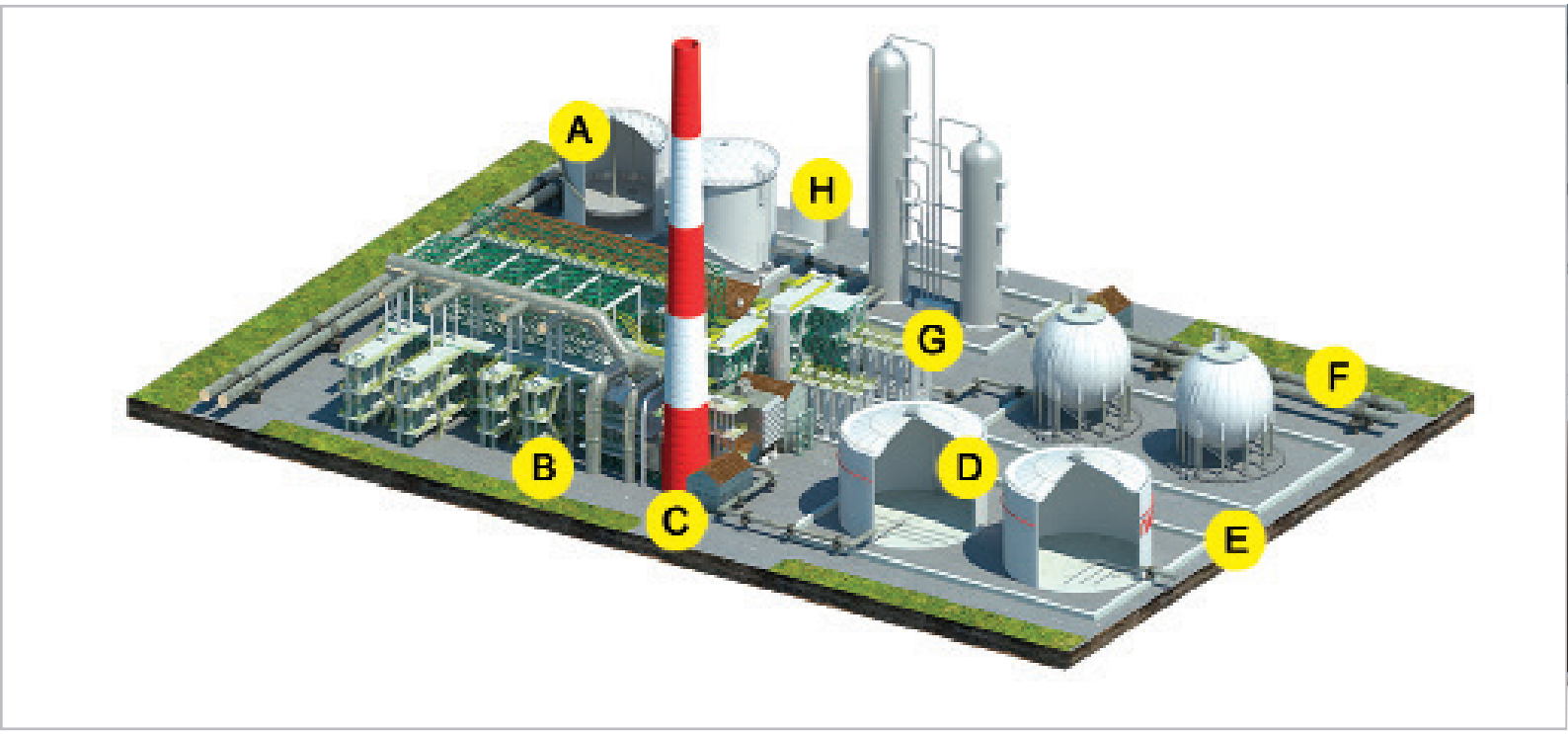
Renewable energy sources are diverse in the world. In order to create the infrastructure for energy production from such sources, the geographic location and accessibility must be carefully examined. Analysis of satellite maps and surface measurements over a long period of time provides one of the best choices for these products. Today, solar energy is produced and used in several ways: solar panels for the production of electrical energy required for small environments, or equipment used in remote or urban areas, solar farms that are used as power plants, solar power plants that are responsible for focusing light at a specific point and creating electricity, as well as supplying warm water with this energy. Wind power plants produce electrical energy through the flow of air in specific

geographic regions. Precise calculations and complex methods are needed to implement such power plants. Geothermal plants also use the heat of the earth as sources of energy. Energy produced from other sources is also being developed, including the movement of water waves, the movement of air currents at high altitude, the movement of vehicles and people.



سیستم اسکادا / SCADA
SCADA / SCADA
SCADA

SCADA is a high-level control and data collection system. SCADA is widely used in various plants and industries, as well as in energy and transport. Careful and centralized monitoring of the status of each of the main systems of power generation and transmission plants and the changing the important parameters are the tasks of the SCADA system. The SCADA system helps to use and maintain the equipment, adopt policies to manage any crisis. The inherent task of this system is to gather basic information from sensors and transfer it to the control center, analyze information and display on the monitors for the users. SCADA is the commu-



A Sensors and transmitters of fluid level measurements are used to control the level of the reservoirs; Based on the received information, a controller carries out the process of controlling the entry of fluid into the reservoir.

B HMI panels are actually graphical user interfaces that run on touch screens or conventional displays, allowing users to monitor and control processes and equipment.

C Using different platforms (fiber, wireless, radio, etc.), signals can be sent to different locations and controlled.

D Control and monitoring of automatic line break valves (LBVs) are the most important issues in the oil, gas and petrochemical industry. The valves can play an important role in the sustainability of gas transmission networks in times of crisis.

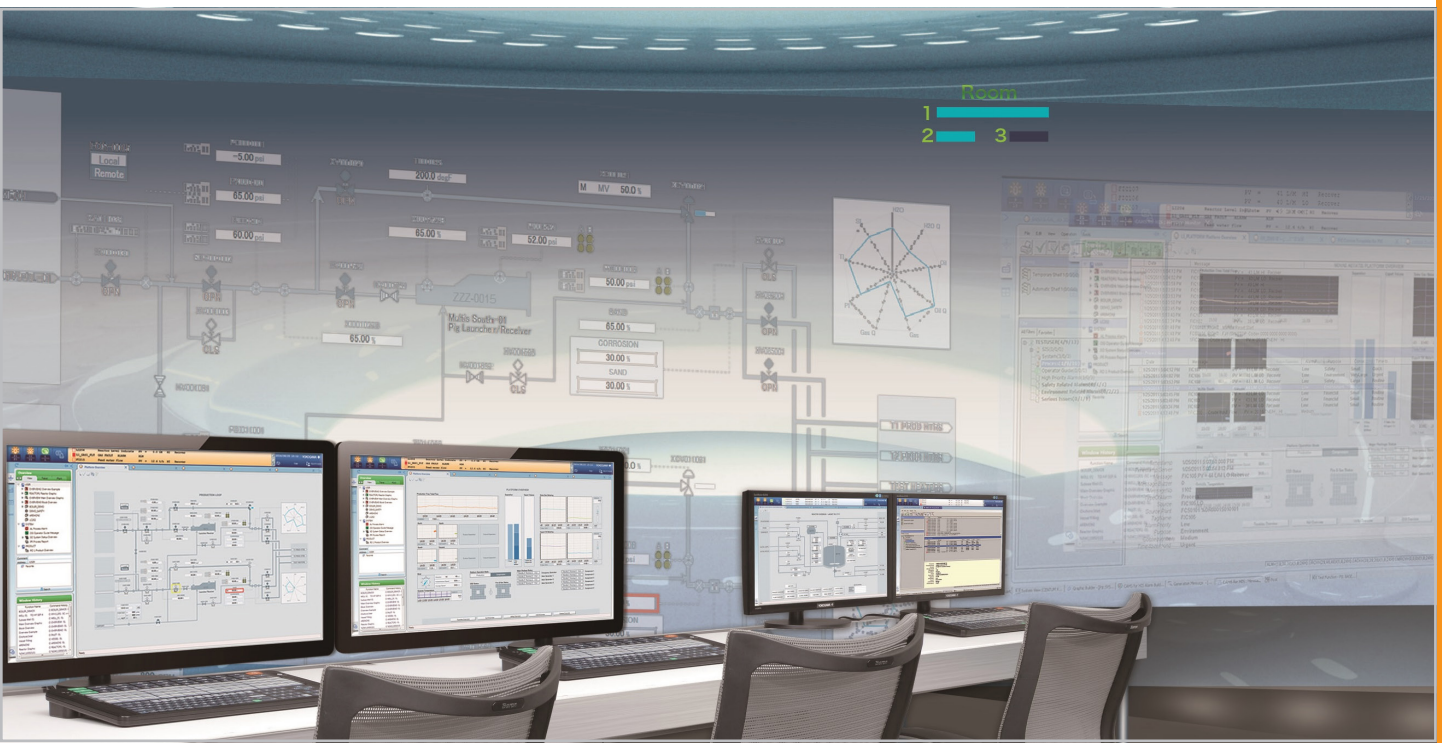
E With the help of a tablet and a smartphone, the entire production process can be controlled and monitored.

F The SCADA system stores a database of all system events. This information can be used to analyze controlled processes.

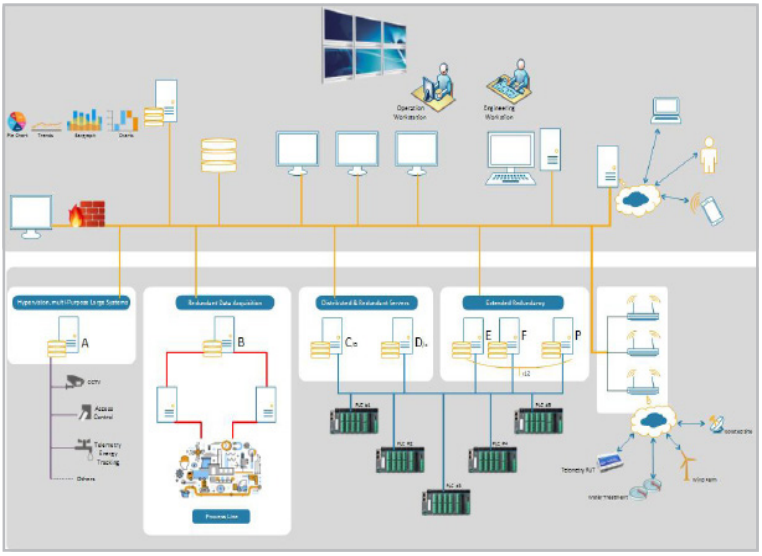
G Sounding different alarms based on the type and importance of events defined in the system

H Using video surveillance system, you can carry out real-time monitoring of all under-control processes.

nication ground of large systems with management and decision-making department. In a big process, such as gas or electricity transmission lines, control and instrumentation systems are active anywhere a mechanical and electronic equipment performs a specific task, in order to monitor and manage the process automatically. In these systems, the commands are already set up and the process continues automatically. However, the review and registration of general commands, which includes the whole process, must be carried out through the control and monitoring center. SCADA receives accurate information from sensors and field equipment through bus and information network. The information is analyzed in the control center and the whole process is displayed. Users and managers will be able to review the entire process and make decisions. At this center, you could change important parameters such as set points, but changing the discrete control parameters and functions could not be done. SCADA is defined in 5 layers. Selecting instrumentation and control devices, sensors, providing a backup of data transmission lines, and finally, analyz-



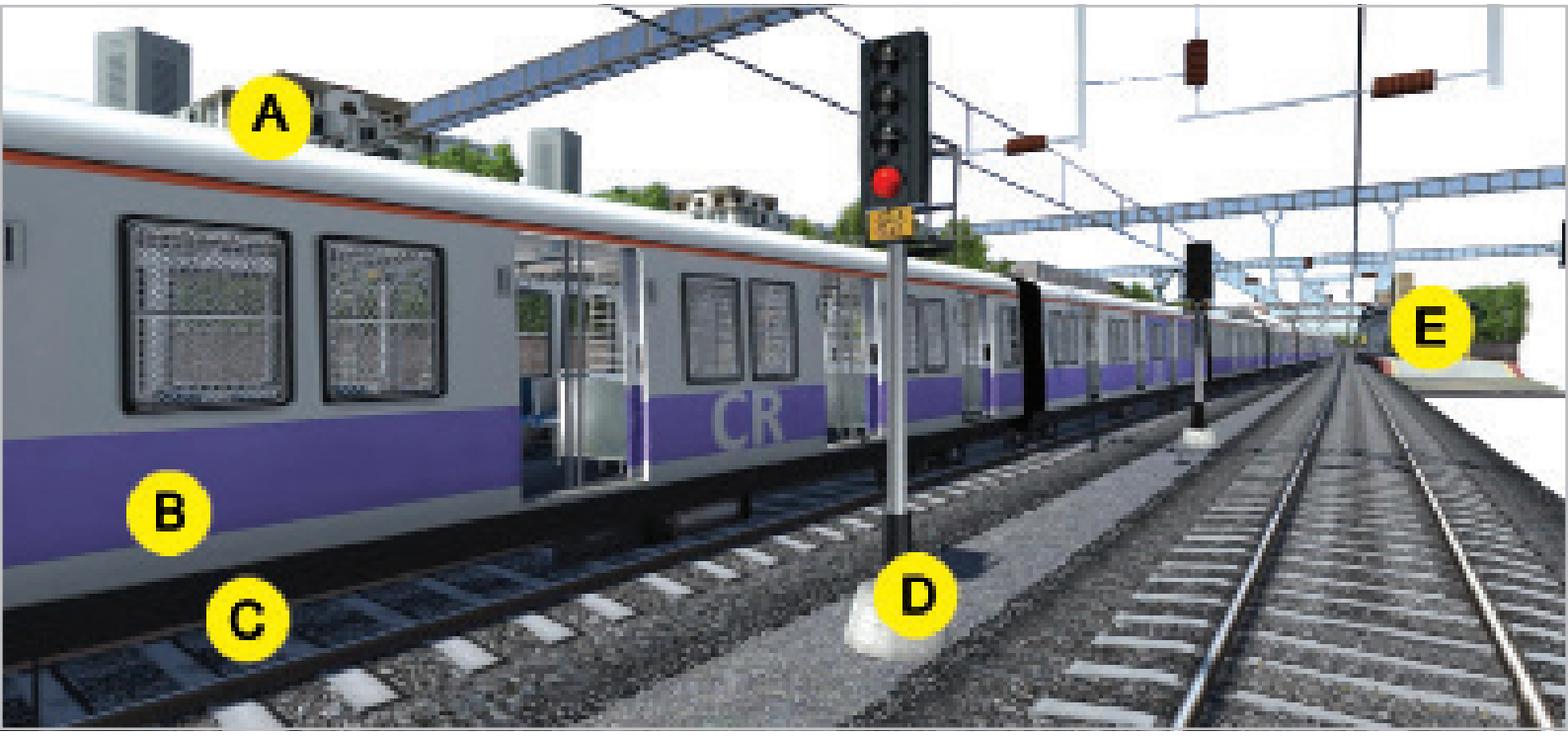
ing and display, are the most important parts of this system. In this system, access to information and status monitoring is also possible for specific users in different geographical areas. This system has vast applications in the production line, distribution and transmission of electricity, oil, gas, petrochemical, and transportation industries, water and wastewater, transportation, and various factories.



HUPIRAN

سیستم سیگنالینگ / Signaling
إرسال الإشارات / сигнализации
Sinyal

Moving towards automation on transportation lines is especially important. In this industry, the speed, the amount of movement and facilitating access are very important. These capabilities increase the likelihood of human error and risk. The use of high-speed processors and hundreds of intelligent sensors and various analyzers has made it possible to automate the transport industry. In the future, except for the subway lines, other communication devices such as cars will also be covered by this system. The signaling system makes traffic intelligent with the least human intervention and greatly increases the speed and safety of transportation lines.



A The task of the control center is to process all the information received from the train and send important information to it.

B The task of the controller in the train is to process the information received from all signaling equipment as well as sending and receiving information from the main center.

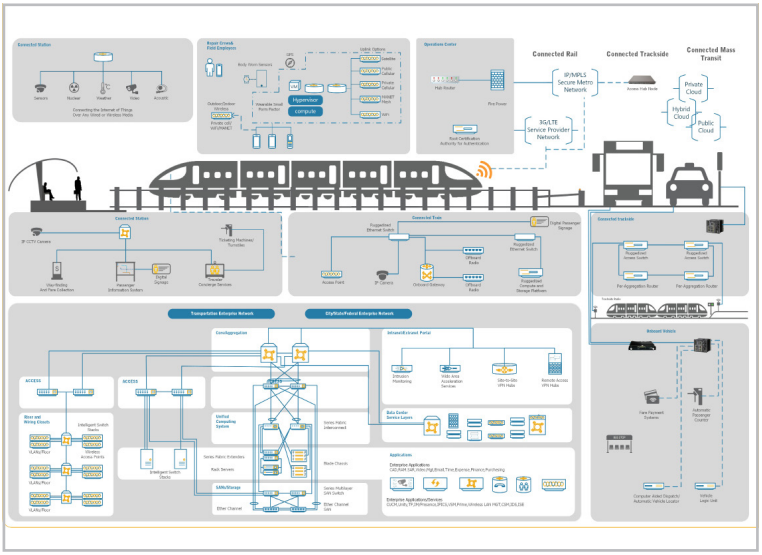
C Signaling equipment to determine the speed, temperature and location of the train

D Equipment for determining the train timetable and line security

E We can use the signaling system to determine the appropriate time for passing through the entrance gate or ensuring security before the arrival of the train.

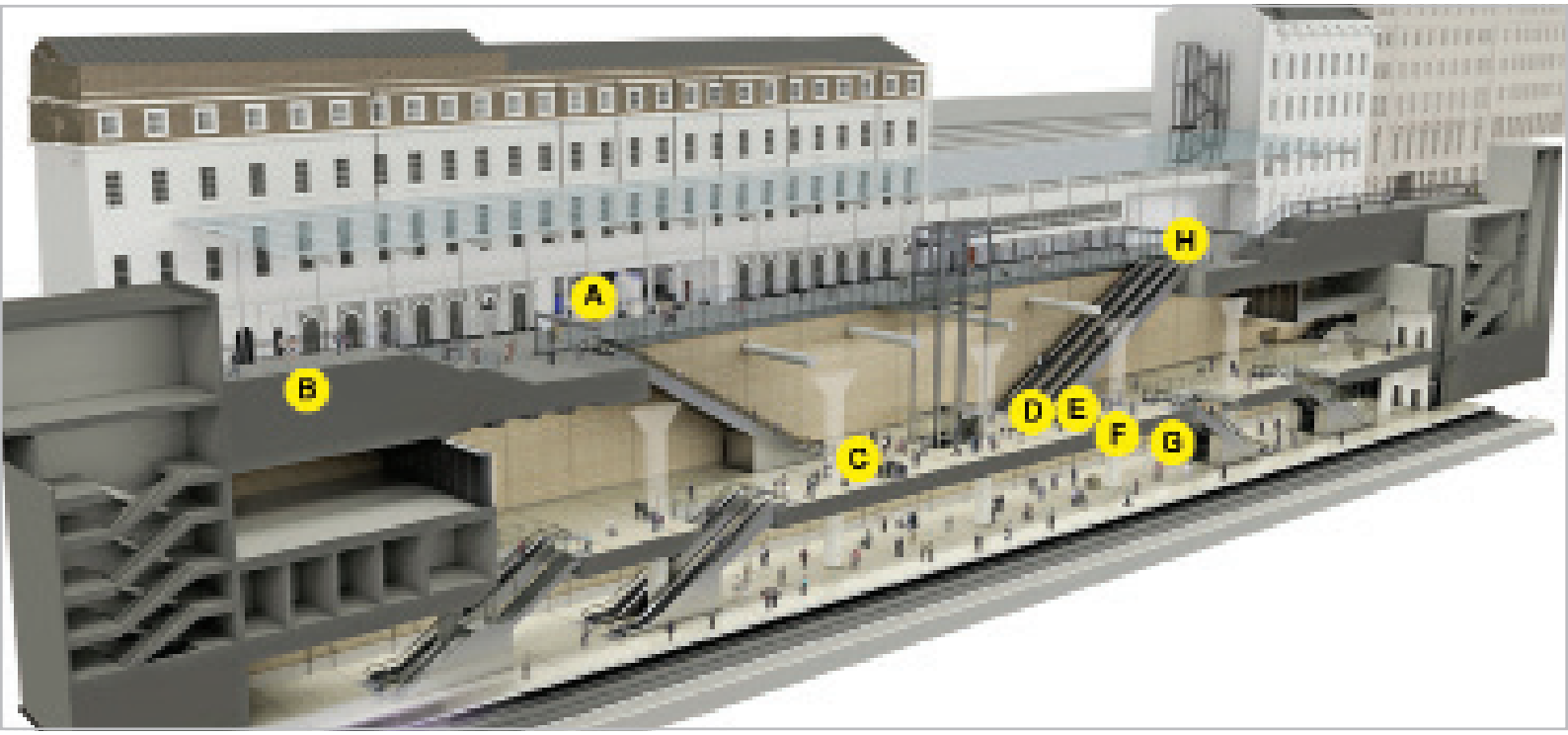
Houpiran is committed to providing safe and reliable services to respected beneficiaries. The function of signaling in the rail industry is to ensure safety and accelerate optimal operation. Signaling involves several major technologies, including a fixed block system, moving block system, and an in-cabin control system. In the fixed block, the path is divided electronically, and in the moving block, based on a constant, safe distance calculation, the front part of the train is divided and the speed and stop parameters are determined. The location of the train is determined on the basis of radio waves in the in-cabin control system. The system consists of many sub-systems, each with separate capabilities for the synergy of the system. The equipment includes automatic control systems, central control system, axle counters, and mechanical equipment, switch machine, automatic routing, interlocking and track, signal lights, etc. In each signaling system, the equipment is divided into two parts: the equipment installed inside the train and the equipment installed in the line. All parts are designed to control the maximum permitted speed, increase safety, stop on the platforms without driver involvement, increase efficiency and ease of use, control train between two

stations without driver involvement. In some countries, the metro system works without a driver and in some other with the driver. However, the signaling system helps them do their job at high speeds. The existence of different brands and equipment in signaling has led companies to move towards the integration of different signaling and central control units. Telecommunication and communication systems such as SDH and routers play a major role in transmitting signaling information.



سیستم درگاه امنیتی / Security & gateway
الأمن والبوابة / Безопасность и шлюз
Güvenlik ve ağ geçidi

The issuance of entry permit at the main gate is made to enhance security. The requirements and scenario of beneficiaries in accessing to a certain place have led to a diversity in the production of gates. Vehicle gate systems are also designed and implemented in a variety of ways for authentication. Houpiran is committed to the selection of superior technology to meet the needs of employers and to ensure the long-term performance of this equipment. Meanwhile, the integration of the



A Full height gates are used to provide the sites with maximum protection

B A barrier gate is used to block the road and prevent the entry to security zones.

C Glasswing gates for disabled war veterans and other disabled people

D Barrier arm gate for use with access control system

E Turnstile gate guides for authorized access

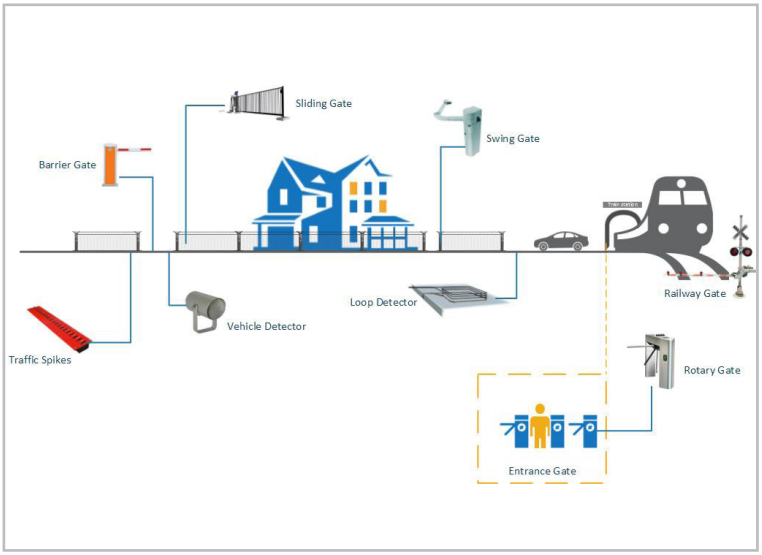
F It can be used to control the entry and exit in crowded areas such as the metro

G It is used to prevent people from entering peculiar and high-risk environments.

H This type of gate is used to block the vehicle path

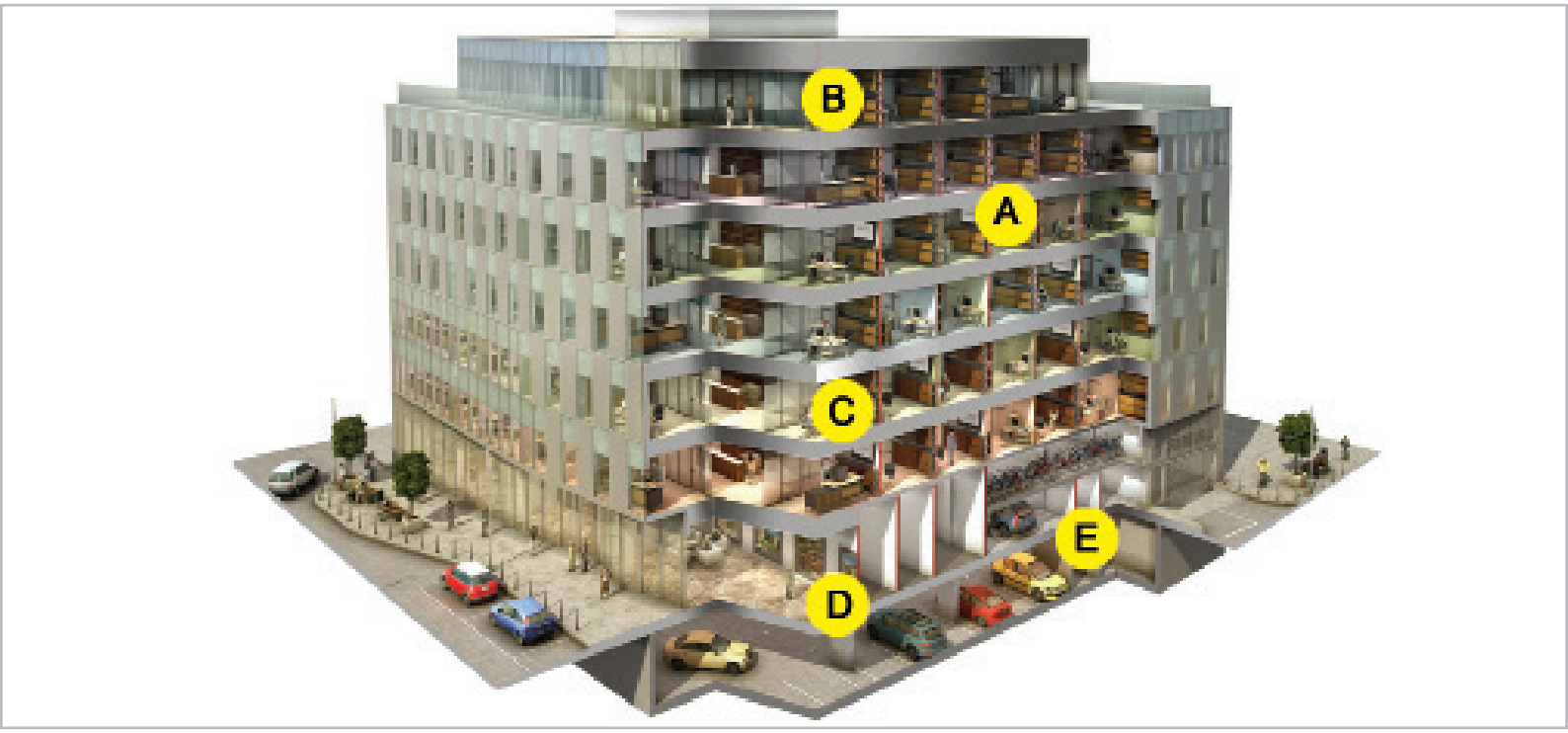
equipment with security and safety systems, as well as smart cards and combining with the bank's ports, are among Houpiran Group's services.
Gates and security ports are defined for the access of humans, animals, and vehicles. These equipment are installed at the entry and exit ports for authentication. Authentication by face detection or access control equipment or credit cards can be defined. Gates and access control systems have many types and are manufactured and used in mechanical science. Therefore, the required location, potential hazards, speed, type of authentication and necessary measures after unauthorized entry must be fully defined. In addition, this system can be fully integrated with security and safety systems, and additional definitions for different situations can be introduced. The transport industry's gates are further designed to regulate and receive tolls and travel costs. These gates equipped

with smart card readers or cash-on-access points make it possible for people to cross. Vehicles' gateways are usually used to authenticate drivers and passengers. However, barrier gates do not have high protection, but the security bollards prevent any penetration. Various video equipment for checking the under part of the vehicle is also installed on this system.



سیستم برق اضطراری بدون وقفه / emergency power supply (UPS)
امدادات الطاقة فی حالات الطوارئ / аварийный источник питания (ИБП)
acil durum güç kaynağı (UPS)

The power consumed in large and sensitive projects cannot be supplied directly from urban sources. The short-term or long-term loss of power, noise, and distortion of stations and consumers will cause noise, malfunction, or interruptions in sensitive systems. Failure of security and safety systems in projects may result in irreparable consequences for beneficiaries. It may also damage some devices in other systems. Meanwhile, continuous supply of noiseless power is also important in blackout moments. Uninterruptible power systems are the suppliers of sensitive

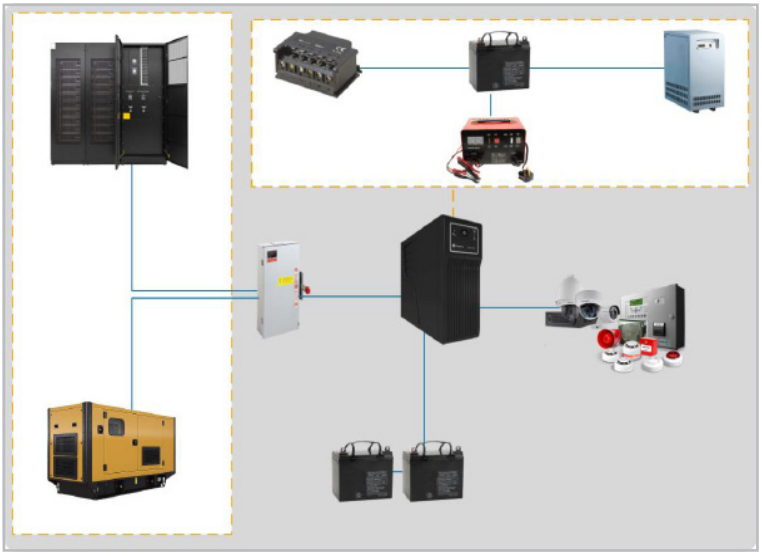


- **A** A colored outlet is used to indicate the type of power supply source (UPS or generator)
- **B** Providing minimum lighting to evacuate buildings or commute in emergency situations
- **C** Dispersed UPS equipment to feed one or two devices
- **D** We can use backup battery bank systems to backup uninterruptible power system and increase the amount of output power
- **E** Supplying the required power for important equipment

customers in projects.

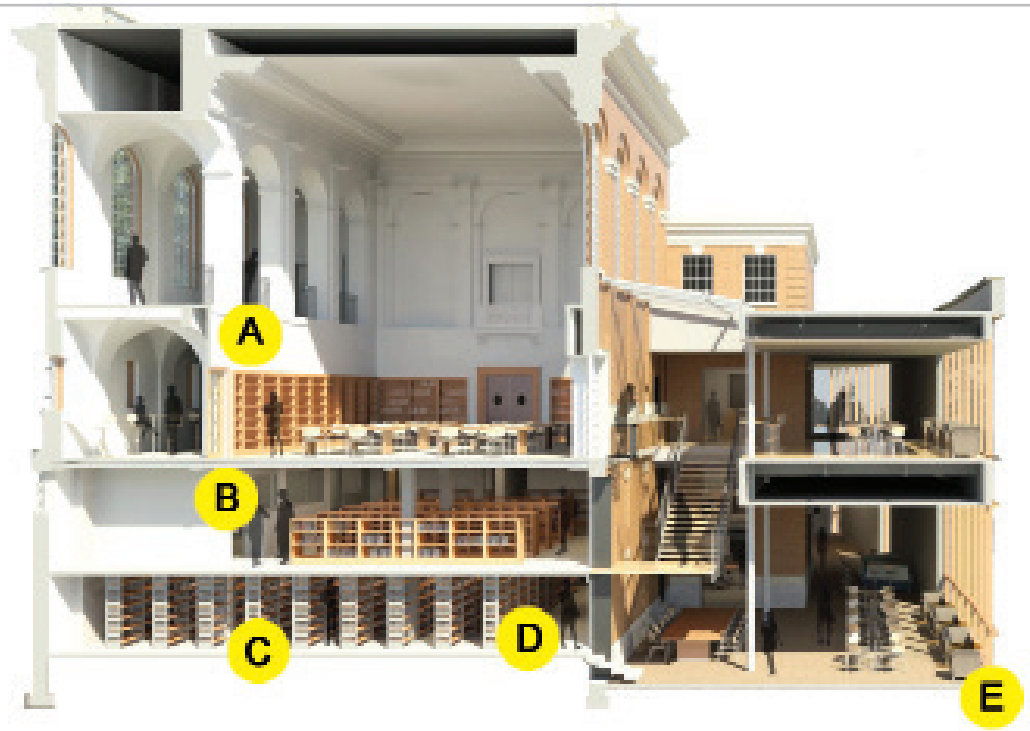
Uninterruptible Power Systems (UPS) technology is very diverse. Although the technologies are categorized into two main types, they are very different in function and affected by the network. These systems are chosen and used based on consumption because it is not only the power consumed by the conventional consumer that is defined for intelligent systems, but sometimes power loads of large industrial building are also defined for this system; therefore, the choice of a suitable device is of particular importance. However, in this system, accurate calculations of electricity consumed by consumers and the extraction of the type of load, and ultimately supplementary formulas, will help to select the type and power of the system. The system requires battery power when power is cut off. Unlike in the past, according to the advancement of technology, these sys-

tems are also advanced and have various monitoring capabilities embedded in them. This system has many advantages over diesel generators, but according to the different uses, defined for each one, the comparison between them is basically wrong. Houpiran is committed to accurate calculations and a cost-effective choice for the proper system.



سیستم تشخیص آب گرفتگی / Water Leak System
نظام تسرب المياه / Система утечки воды
Su Sızıntısı Sistemi

Loose soil and destruction are the main factors causing leakage and flooding. This weakness in the mountainous and plain areas is considered as a landslide and leads to the destruction of the buildings construction industry. The high cost of the landslide has created monitoring and reporting systems in various industries. A landslide can damage old buildings and ancient monuments, towers and high rise buildings and highlands of the cities. In the event of a minor incident in these plac-



A The humidity sensor is able to detect the exact amount of moisture to maintain the equipment.

B Monitoring transmission lines in a landslide region by the landslide detection sensor

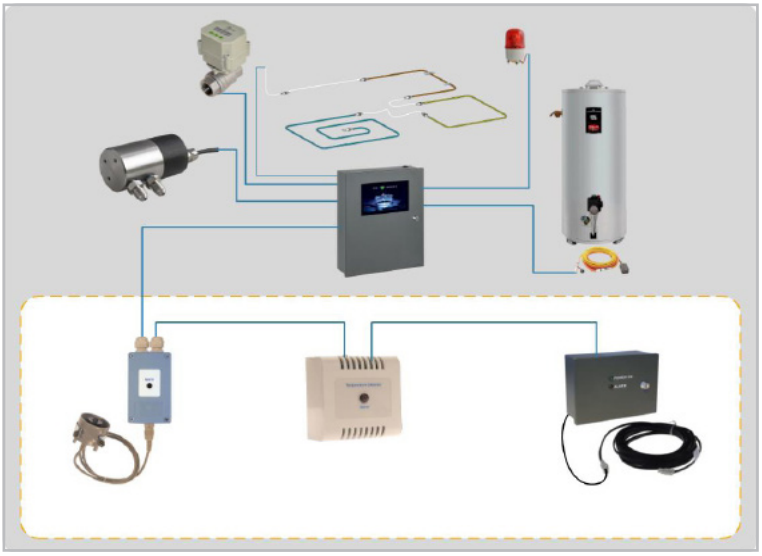
C Investigating the water leakage and measuring the moisture levels of underground surfaces using specific sensors

D Using different technologies, Condensate Level Control Sensor can detect and measure the level of fluids in the floor and the path.

E The deviation of soil erosion due to moisture is monitored and the rate of changes is reported.

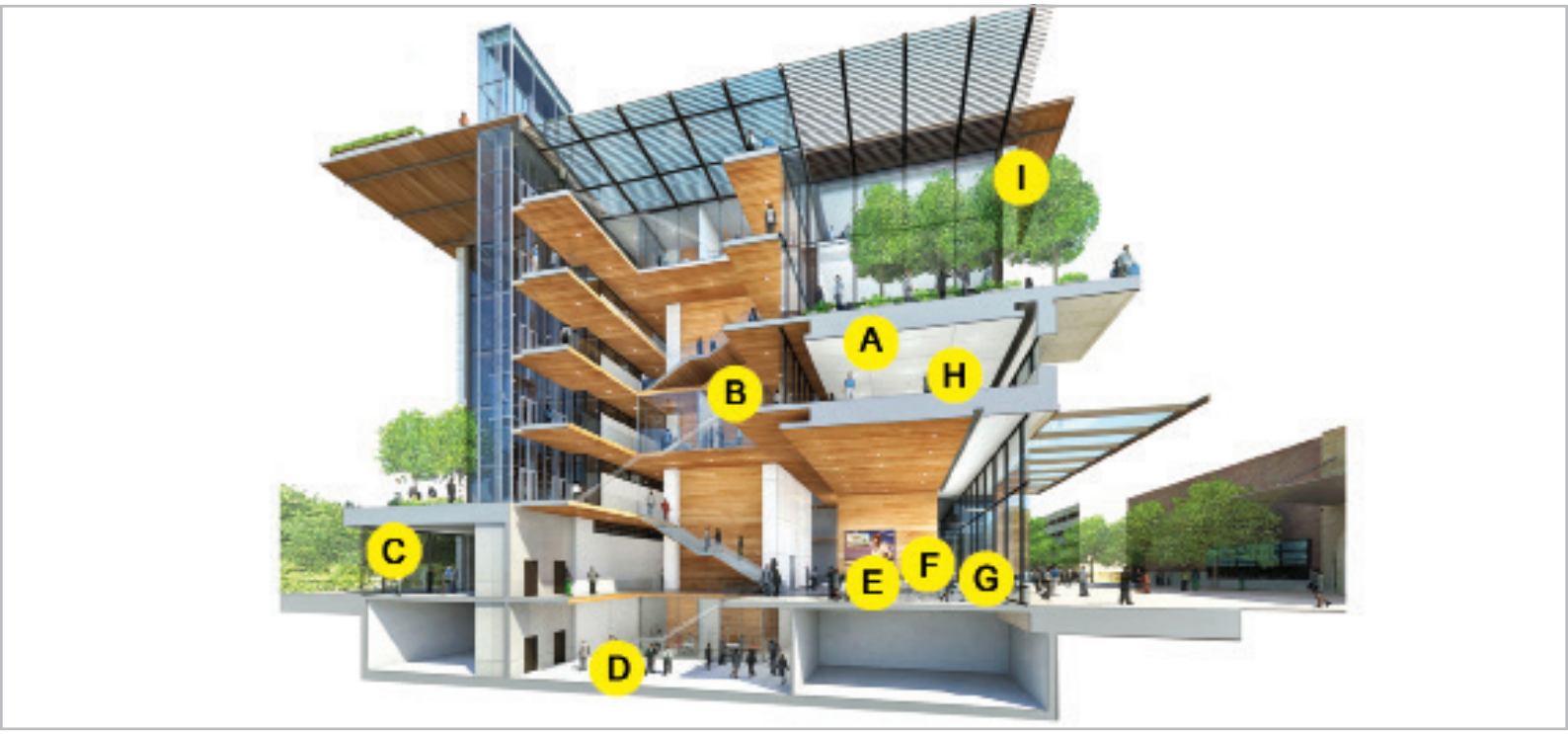
es, the costs and consequences for the occupants of these places are also high. Flood detection is measurable based on instrumentation control parameters or visible and non-visible frequencies and waves. However, the extracted parameters are examined and simulated with software and the leakage detection process is observed in many places, during the impact period. This system consists of various sensors and instrumentation equipment. Various implementation solutions are presented based on the implementation type and the employer's expectations from this system. It is also possible to integrate the variety of technologies used to increase accuracy. Today, leak and flood checking systems in our country work based on the analysis of the parameters of the input water injected into the transfer pipes and the consumed water in the buildings. The

presentation and analysis of other parameters, even the effect of diffusing moisture in the air are possible for the leakage factor. Houpiran is committed to providing the best ways to reduce the risk factor for project beneficiaries.



سیستم وایرلس / Wireless & Radio Devices
نظام لاسلكى / Беспроводная система
Kablosuz sistemi

Access to high-speed data transmission and communication networks is defined by wireless systems for portable and fixed equipment in various locations. Today, the wireless system replaces old copper wires in the offices and homes. In the past years, the progress of the wireless system has been good, and support for bandwidth and speed with increasing the number of users has attracted the customers' satisfaction. Today, internet and mobile phone service providers offer data



A Sending advertising messages such as clips, SMS, animated banners

B Displaying TV channels, movies and various programs on smartphones via Wi-Fi network

C Ability to provide a private Wi-Fi network for special areas such as office and shop

D Ability to check the density of specific areas via Wi-Fi for managing agglomeration and conducting the managerial analysis.

E Ability to analyze comments and receive customers' suggestions

F Providing high-speed broadband internet for the visitor's well-being and generate value added for beneficiaries

G Counting visitors and recording information about the time of entry and places they have visited via Wi-Fi

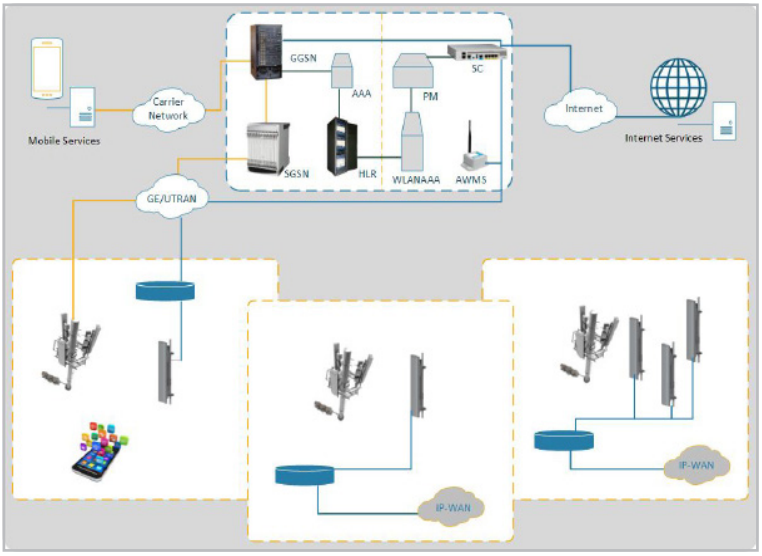
H Displaying advertisement on software, using Wi-Fi network

I Providing Wi-Fi coverage for outdoor space with an outdoor antenna

services over broadband wireless networks, and some countries in the world are fully covered by the wireless network.

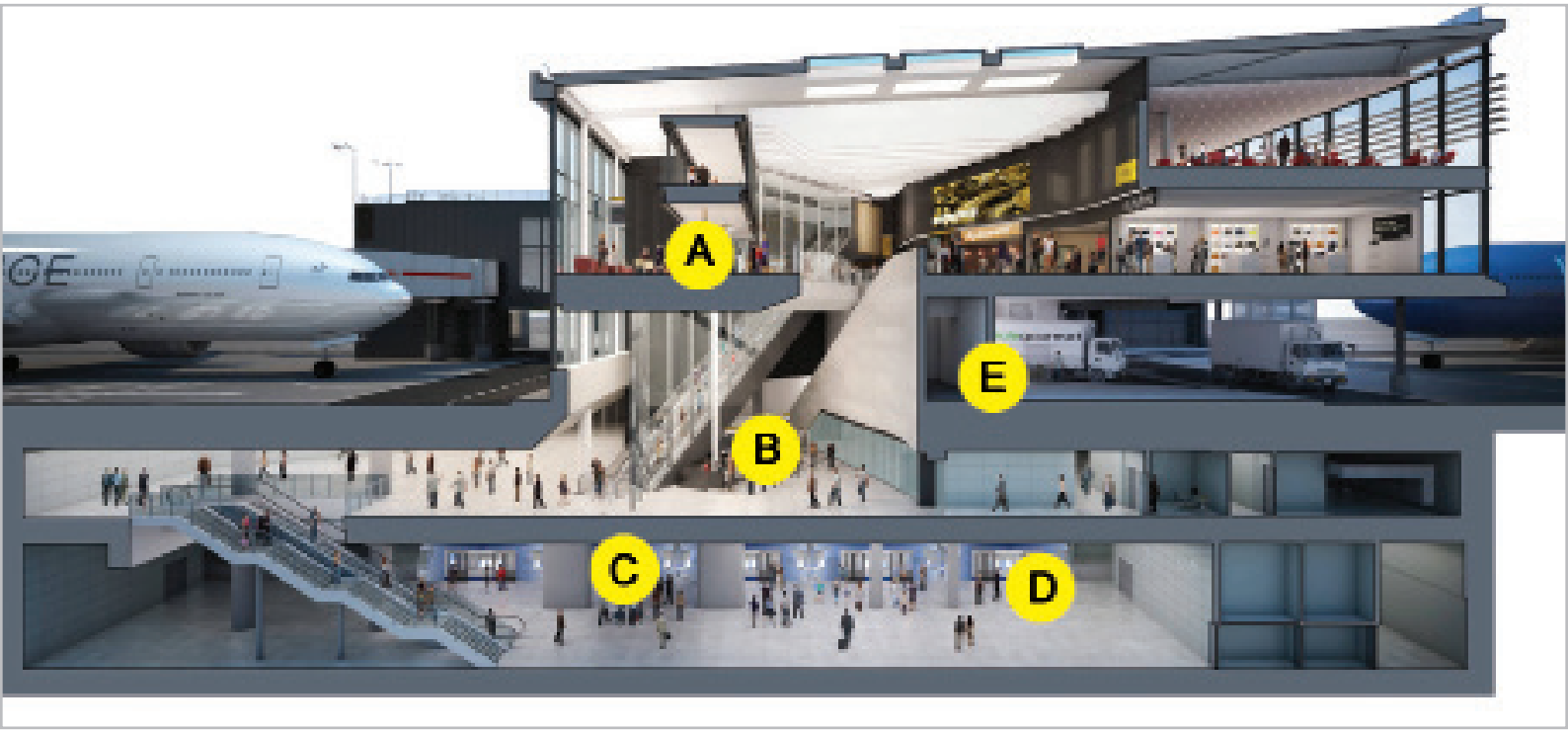
The development of software and hardware technologies has expanded virtual services. In the past, individuals were referring to different places to solve their problems, but providing virtual services on mobile, tablet, and portable systems, facilitated living conditions and made it easier to access resources and eventually offered many options to users. These services themselves require a vast communications infrastructure bound to main networks such as the internet. The provision of communication lines for this equipment is usually made by wireless networks and GSM. However, the provision of services for broadband and economical wireless networks has attracted the attention of service providers and users. Wireless bandwidth is capable of supporting the data required for security, safety, entertainment, data, and control systems. Today, mobile

operators offer their services to wireless devices in different places around the world, and wireless equipment manufacturers have also been able to integrate with these operators. Houpiran is committed to providing secure and accessible services, through mastering 3D simulation software and offering precise design of wireless networks.



X / X-Ray سیستم اشعه
X–رای / Рентгеновский
Röntgen

Today, the use of X-ray systems to promote security at the arrival and departure points of the busy and important places is very common. X-Ray systems with the ability to analyze various types of materials and display of color prevent the entry of any prohibited materials and equipment. X-Ray systems are manufactured and used in various sizes to examine individuals, animals, objects, goods, and vehicles. However, health issues and radiation levels in protecting the environment



A Baggage-scanning system is used to scan passengers' baggage in the shortest time possible, and to enhance the security.

B Local X-RAY equipment is used to control people quickly and ensure the safety of the unit

C Scanning people at the entrance will enhance indoor security.

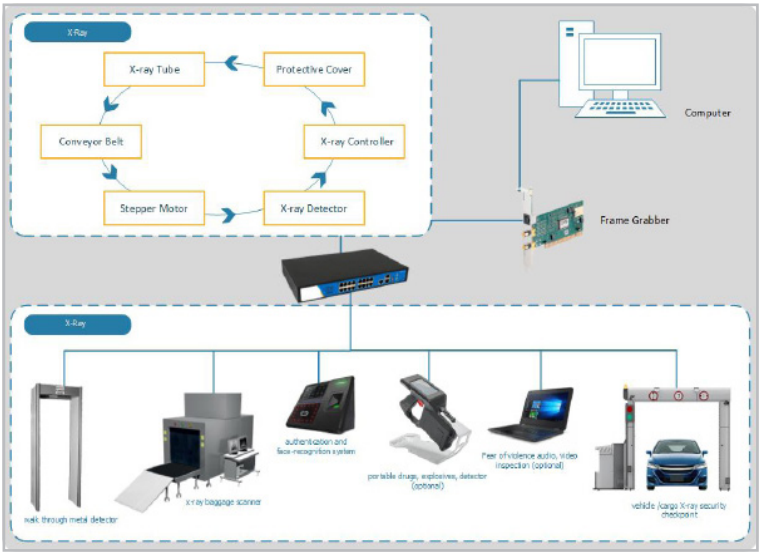
D Scanning people by hand-held X-RAY equipment in specific cases improves performance and safety.

E In important and specific areas, Vehicle scanning system is used to identify the equipment inside it.

around the device are essential. Houpiran is committed to providing functional systems to meet the needs of beneficiaries.

In addition to considering the installation location and traffic calculations for people in the building, several different technologies have been used to design the internal structure of the Xray system. However, with the development of detection technologies, these systems also have significant growth in operator panels and material analysis program. Today, in addition to X-ray detectors, there is the possibility of installing devices for detecting radiation sources of gamma and neutron to detect radioactive substances as well as detectors of various types of toxins on these systems. The use of various technologies in these systems does not pose a specific health hazard to humans. The use of special equipment in this system makes it possible to scan and examine internal parts of developed vehicles at higher speeds. Therefore, you can make a cost-effective

choice according to the needs of the beneficiaries and equipment available for this system. Operators play a major role in monitoring these systems, but today, AI software takes accurate images and sends detailed messages to the security and protection personnel when they detect specific cases.



HOUPIRAN

صنعت هوشمند حمل و نقل هوایی / Aviation Intelligence Industry
صناعة استخبارات الطيران / Авиационная разведка
Havacılık İstihbarat Endüstrisi

Aviation Intelligent Industry

Human societies have welcomed the speed of transport in the aviation industry. This requires intelligence in communications and provision of security and safety in all processes.

Security
ACS
PIDS
NTM
TGC
RADAR
CTV
X-RAY

Infrastructure
CABLE TRAY
NETWORK
MAC
DCC
MMR

Renewable
Solar

Entertainment
ARS
DGS

Guidance
PCS
CMS
FFM

Insrumentation
BMS
SCADA
LMS

Safety
ELS
WLS
BRS
Ice Melting System
UPS
PAB
FAS
FSS

Communication
WRD
INTERCOME
MPC
PBX
FTTH
RADIO WAVE

کشاورزی هوشمند و اقلیم هوشمند / Intelligent Agriculture
الزراعة الذكية / Интеллектуальное сельское
Akıllı Tarım

Intelligent Agriculture

Our expertise is the long-term management of the essential services in agricultural, forestry and fisheries sectors to protect the environment, plant and animal resources, manage water consumption, ensure quality in accordance with climatic conditions in order to increase productivity and income.

Security
ACS
PIDS
NTM
CTV

Infrastructure
NETWORK
MAC
DCC
MMR

Renewable
Solar

Guidance
CMS

Insrumentation
BMS
SCADA
LMS

Safety
ELS
WLS
BRS
Ice Melting System
UPS
PAB
FAS
FSS

Communication
WRD
INTERCOME
MPC
PBX
FTTH
RADIO WAVE

HOUPIRAN

صنعت هوشمند و امن بانک، موسسات مالی و اقتصادی / Smart and Safe Banking, Financial and Economic Institutions / الأعمال المصرفية الذكية والمأمونة، والمؤسسات المالية والاقتصادية
Умные и безопасные банковские, финансовые и экономические институты
Akıllı ve Güvenli Bankacılık, Finansal ve Ekonomik Kurumlar

Smart and Safe Banking, Financial and Economic Institutions

The implementation of smart systems for financial places is of particular importance as all banking and interactive services on the network platform are provided to customers in developing countries, in recent years. Meanwhile, the security systems that have been used for a long time at these sites can be integrated with the existing infrastructure in these places. Increasing the safety and classifying data in an important place such as data centers and ATMs, are the cornerstone of the emergence of a comprehensive electronic system.

Security
ACS
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Infrastructure
CABLE TRAY
NETWORK
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MMR

Renewable
Solar

Entertainment
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Guidance
PCS
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Insrumentation
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Ice Melting System
UPS
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Communication
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MPC
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FTTH
RADIO WAVE

کارخانه و مراکز صنعت / Factories and Industrial Centers
المصانع والمراكز الصناعية / Заводы и промышленные центры
Fabrikalar ve Sanayi Merkezleri

Factories and Industrial Centers

Today, the main goal of manufacturers is to increase the production for participation in the global market. We provide the best service with the help of intelligent systems in the field of design, installation and maintenance of equipment to enhance safety, increase efficiency and reduce fuel consumption in accordance with the latest international standards.

Security
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Infrastructure
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Ice Melting System
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Communication
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FTTH
RADIO WAVE

HOUPIRAN

صنایع غذایی و آشامیدنی / Food and Beverage Industries
صناعات الأغذية والمشروبات / Продукты питания и напитки
Yiyecek ve İçecek Endüstrileri

Food and Beverage Industries

Today, producing the high-quality food and drink is an important factor for participation in today's competitive markets.
Our company uses the intelligent system to improve product quality and reduce energy consumption.

Security
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Infrastructure
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Renewable
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Ice Melting System
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Communication
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MPC
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RADIO WAVE

مناطق حفاظت شده و پارک های ملی / Protected Areas and National Parks
المناطق المحمية والحدائق الوطنية / Охраняемые территории и национальные парки / Korunan Alanlar ve Milli Parklar

Protected Areas and National Parks

Protected areas and forests, as the lifeline of environment, need to be controlled and protected without time-space constraints to reduce damages caused by natural disasters and prevent wildlife extinction. We propose the use of advanced intelligent systems to achieve these goals.

Security
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CTV

Entertainment
ARS

Safety
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FAS

Infrastructure
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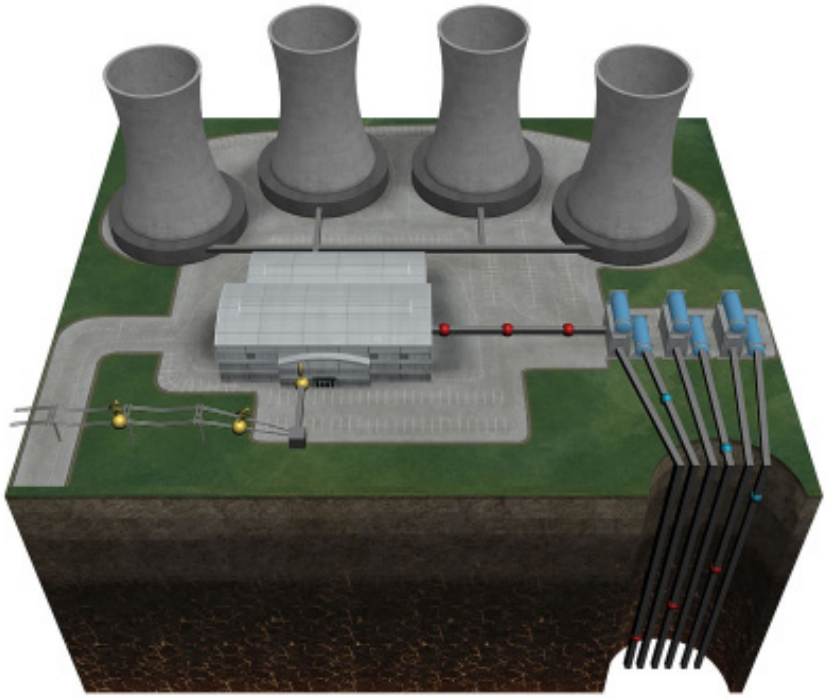
Communication
WRD
MPC
RADIO WAVE

Renewable
Solar

HOUPIRAN

نیروگاه زمین گرمایی / Geothermal Plant
محطة الطاقة الحرارية الأرضية / Геотермальный завод
Jeotermal bitki



Geothermal Plant

We provide new solutions for the use of renewable energies which have an important impact on the world's current economy and the environment.

Security
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RADIO WAVE

صنعت هوشمند ساختمان های بلند مرتبه / Intelligent Industry in High-rise Building
مبنى ذكى من المبانى الشاهقة / Интеллектуальное здание высотных зданий
Yüksek binaların akıllı binaları

Intelligent Industry in High-rise Building

In the present era, intelligent systems and solutions have been invented and developed with the rise in building height and towers, as well as the development of urbanization, and the need for a sense of tranquility in various sectors of society. By creating new different conditions, such systems have had a huge impact on the entertainment, relaxation, security, speed and welfare of the people.

Security
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MMR

Renewable
Solar

Guidance
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Insrumentation
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Ice Melting System
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Communication
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FTTH

HOUPIRAN

بیمارستان و آزمایشگاه / Hospital and Laboratory
مستشفى ومختبر / Больница и лаборатория
Hastane ve Laboratuvar

Hospital and Lab

Today, the expanded use of smart technologies in the medical centers of the world has always contributed to improving community health, patient satisfaction and the improvement of medical group performance. These systems have been able to improve patient satisfaction and create comfort and ease in hospital environment.

Security	ACS NTM CTV X-RAY
Infrastructure	CABLE TRAY NETWORK MAC DCC MMR
Renewable	Solar
Entertainment	ARS ITV DGS
Guidance	CMS NURSE CALLING PMS
Insrumentation	BMS GRMS HA LMS
Safety	ELS WLS BRS Ice Melting System UPS PAB FAS FSS
Communication	WRD INTERCOME MPC PBX FTTH RADIO WAVE

هتل و رستوران های هوشمند / Smart Hotels and Restaurants
فنادق ومطاعم ذكية / Умные гостиницы и рестораны
Akıllı Oteller ve Restoranlar

Smart Hotels and Restaurants

Restaurants, food courts and hotels have a huge impact on the emergence of major tourist markets in the world. Providing and delivering basic and diverse services and the competitive quality have created major developments in this industry. The provision of intelligent services and equipment is the best way to develop this industry and create special conditions for users.

Security
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PIDS
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TGC
CTV

Infrastructure
CABLE TRAY NETWORK
MAC
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Renewable
Solar

Entertainment
ARS
ITV
DGS
MUSICAL FOUNTAIN

Guidance
PCS
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FFM
PMS

Insrumentation
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GRMS
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Safety
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Ice Melting System
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Communication
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MPC
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RADIO WAVE

HOUPIRAN

نیروگاه برق آبی / Hydro Power Plant
محطة الطاقة الكهرمائية / Гидроэлектростанция
Hidroelektrik Santrali

Hydro Power Plant

We provide innovative solutions for the development of hydroelectric power plants in order to increase the efficiency, safety and useful life of the equipment.

Security
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TGC
CTV

Guidance
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NURSE CALLING
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Safety
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Infrastructure
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Insrumentation
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Communication
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INTERCOME
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PBX
FTTH
RADIO WAVE

Renewable
Solar

مگامال و مجتمع های تجاری و اداری / Megamalls and Commercial and Administrative Complexes / المجمعات التجارية والمكاتب
Мегамалы и коммерческие и офисные комплексы
Megamals ve ticari ve ofis kompleksleri

Megamalls and Commercial and Administrative Complexes

Mega-malls and large commercial and administrative centers have an impact on the economy of the cities. Providing diverse products and integrated services has attracted more customers. Nowadays, any knowledge about footfall in commercial complexes is important; with the help of new technologies, the intelligent systems have increased value added and helped for better management of such centers.

Security
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Infrastructure
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Renewable
Solar

Entertainment
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MUSICAL FOUNTAIN

Guidance
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Insrumentation
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Ice Melting System
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Communication
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RADIO WAVE

HOUPIRAN

صنعت هوشمند بنادر و دریانوردی / Intelligent Ports & Maritime Industry
منافذ ذكيۀ وصناعۀ بحريۀ / Интеллектуальные порты и морская индустрия
Akıllı Liman ve Denizcilik Endüstrisi

Intelligent Ports & Maritime Industry

The biggest and most heavy commercial freights are carried to their destinations by ships. Today, access to the sea is one of the most strategic and economic factors. Ports also play a key role in this industry. Smart Automation Systems have accelerated and secured all the processes in this industry.

Security
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PBX
RADIO WAVE

مراکز و اماکن نظامی / Military Centers
المراكز العسكرية / Военные центры
Askeri Merkezler

Military Centers

Increasing order, promoting security and achieving national goals is one of the biggest tasks of military centers in the world. Today, the cutting-edge technologies has been developed for such purposes; therefore, the provision of intelligent services has become more and more important for these centers.

Security
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Infrastructure
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Entertainment
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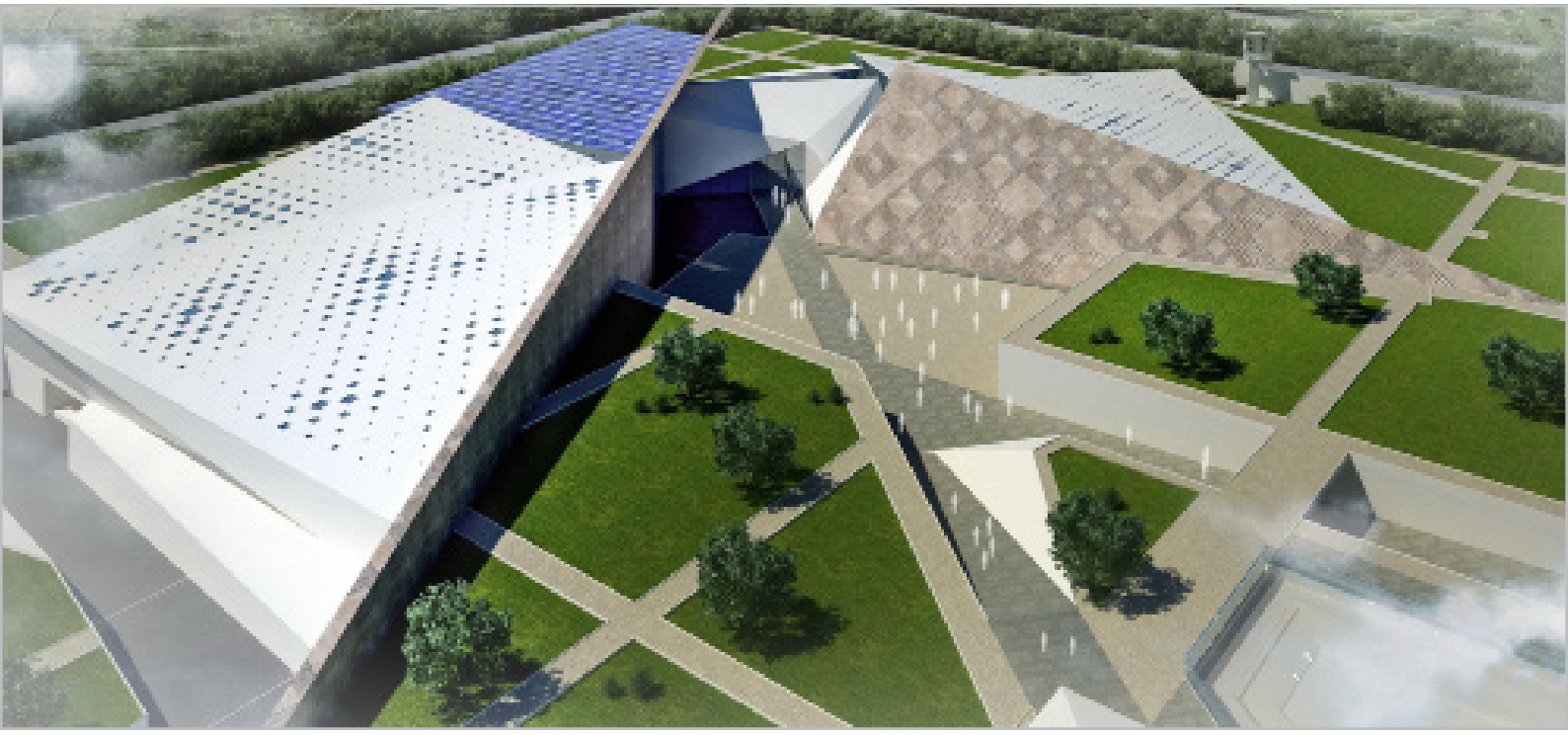
RADIO WAVE

HOUPIRAN

موزه و مراکز تاریخی هوشمند / Museum and Historic Centers
المتحف والمراكز التاريخية / Музей и исторические центры
Müze ve Tarihi Merkezleri



Museum and Historic Centers

The maintenance of historical buildings and museums, inherited from previous generations and former human civilization, and the display of works of great cultural and material value require employing various intelligent systems in maintenance, security, guidance and long-term preservation of such works of art and buildings.

Security
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RADIO WAVE

صنایع پتروشیمی / Petrochemical Industry
صناعة بتروكيماوية / Нефтехимическая промышленность
Petrokimya endüstrisi

Petrochemical Industry

Considering the high consumption of fuel and considering the refinery as the main pillar of the oil and gas industry, and taking advantage of the technical knowledge and expertise, new solutions are presented for control, security and productivity increase. With the goal of dominating world markets and taking into account customer needs and environmental requirements, providing engineering services and using the latest technologies in the oil and gas industry will improve production, enhance security, and increase safety and productivity.

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Entertainment
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Communication
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RADIO WAVE

HOUPIRAN

مراکز تفریحی و پارک ها / Recreational Centers and Parks
مراكز الترفيه والحدائق / Центры отдыха и парки
Rekreasyon Merkezleri ve Parklar

Recreational Centers and Parks

Today, smart systems are seen in most urban areas. Facilitating the provision of urban services and helping to attract tourists are the goals for using such systems. With the help of these equipment, recreational centers and parks can create a diverse happy environment to visitors.

Security
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MUSICAL FOUNTAIN

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Communication
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صنعت هوشمند راه آهن، مترو و منوریل / Intelligent Railway, Metro and Monorail
سکک حدیدیهٔ ذکیهٔ ومترو ومونوریل / Интеллектуальная железная дорога, метро и монорельс / Akıllı Demiryolu, Metro ve Monoray

Intelligent Railway, Metro and Monorail

The railway transportation industry is one of the most important factors in the development of countries in the world, which requires promoting security, increasing speed and automating the movement. Achieving the goals of intelligent transport and secure and fast traffic is only possible with automatic systems.

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Communication
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RADIO WAVE

HOUPIRAN

نیروگاه های خورشیدی / Solar Power Plants
محطة للطاقة الشمسية / Солнечная электростанция
Güneş enerjili elektrik santrali

Solar Power Plant

We provide innovative solutions in the design, supply, installation, consultation, and maintenance of solar energy systems to enhance energy efficiency and environmental protection.

Security
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Guidance
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Infrastructure
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FTTH
RADIO WAVE

Renewable
Solar

صنعت حمل و نقل جاده ایی / Road Transport Industry
صناعة النقل البرى / Автомобильная промышленность
Karayolu Taşımacılığı Sektörü

Road Transport Industry

Long traffic jam and lawless traffic in urban and interurban areas has caused mass damages for human societies. However, the use of intelligent systems in road transport allows integrated management of this industry.

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Ice Melting System
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Communication
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FTTH
RADIO WAVE

دانشگاه ها و مراکز علمی / University and Scientific Centers
الجامعة والمراكز العلمية / Университет и научные центры
Üniversite ve Bilim Merkezleri

University and Scientific Centers

Universities and scientific centers have broken the educational boundaries in the world by developing their educational systems, including the provision of virtual and electronic services. In the meantime, virtual labs and information sharing have been expanded to meet educational goals, and intelligent systems are the only way to achieve these goals.

Security
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MUSICAL FOUNTAIN

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RADIO WAVE

Water and Wastewater Industries

We provide the best solutions for managing water supply, reducing environmental pollution, optimizing consumption and increasing business opportunities by cutting costs and using advanced technologies.

Security
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Infrastructure
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Renewable
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RADIO WAVE

HOUPIRAN

نیروگاه های بادی / Wind Power Plant
محطة طاقة الرياح / Ветроэлектростанция
Rüzgar Enerjisi Santrali

Wind Power Plant

The increasing use of renewable energy from wind has led us to provide innovative solutions to reduce air pollution and produce energy using the most advanced engineering knowledge.

Security
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RADIO WAVE

HOUPER SERVICES

Services

Installation, Implementation, and Training

Houpiran services include the implementation of all engineering operations with an emphasis on compliance with international standards, use of online software(ERP & CRM) to provide the employer with the reports on the performance the contractor, observance of environmental protection and HSE rules, the development of documentation during the operation, training during the operation, temporary and final delivery of the works, all to the approval of the employer and observance of all site rules to reduce possible damages, guarantee the quality of service and performance of the system after the final delivery of systems up to 10 years, provide parking management models.

Supply of Equipment

Selection of the best products from all over the world in order to meet the needs of employers, provide cost-effective equipment with accurate knowledge of its features and capabilities, guarantee the quality and after-sale services of products for industries and mines, transportation, military and police, urban management, real estate and business, recreational and tourist centers, and maintaining structural integrity from Asian, European and American countries in the shortest possible time, as well as the use of domestic industries and the observance of the development of new technologies in these products and quality assurance to satisfy the employers' objectives are the services provided by Houpiran.

Consulting, Feasibility, and Simulation

Parking crisis has been afflicted many of the big cities and has always been a source of dissatisfaction with urban services in large places. Intelligent parking systems include an automated system for facilitating traffic and signs for choosing a parking lot, facilitating payment of parking fees, and ultimately a guiding system to get out of the parking lot. Smart parking systems have different types and use various technologies that can be designed according to customer requirements. With an accurate understanding of the types and benefits of each one, Houpiran tries al-

ways to offer a cost-effective solution for employers.

Project Monitoring Engineering

Houpiran has succeeded to monitor large projects with the help of its specialized teams and with plenty of experiences in implementing diverse systems and participating in major national projects. By focusing on providing services according to worldwide standards and providing online reporting on software systems, our group has attracted the satisfaction of employers and project beneficiaries. Supervisory and monitoring services include:

- *Supervising and monitoring project requirements and future scope*
- *Project schedule, discrepancy, and precise reports*
- *Monitoring the feasibility and initial calculations of the project*
- *Supervising design, simulation, modeling and engineering calculations*
- *Supervision on the purchase of equipment and checking the status of goods authenticity*
- *Supervision on shipments, inspections and technical testing of the factory*
- *Monitoring the implementation of the project at different stages*
- *Monitoring all project processes*
- *Monitoring system configuration and scheduling*
- *Monitoring the transfer of project operation*

Design and Simulation Engineering

Houpiran has succeeded in providing a diverse range of services in a variety of projects with the help of professional specialists in design, simulation, and modeling. Based on the type and needs of the project, the group prepare a document list and formulate design engineering documentation for applying the required standards and quality assurance of the project. Design engineering services include the followings:

- *Study the subject of the project and the engineering requirements for the implementation of the standard*
- *Deciding to choose the best practices and solutions for optimal implementation*
- *Choosing the best and most economical equipment in achieving the goals of the*

HOUPER SERVICES

project

• Formulating design engineering documents and presentation of the document list of project systems

• Inter-system integration and interconnection to create inter-system synergy

• Estimate design engineering requirements and related documents to facilitate maintenance

• Software simulation of some systems to facilitate accurate implementation

• Modeling the systems to provide equipment and facilitate installation and maintenance

• Accurate calculation document in hybrid systems and extracting control parameters

• Detailed design of all integrated systems complete with descriptive documentation

• Providing the list of materials (LOS) and bulk material of the project along with accessories

• Documentation of international tenders in the world's most popular languages

Engineering Consulting Services on Procurement and Installation of Equipment

With a full understanding of the standards and capabilities of each brand, Houpiran has gained a solid experience in providing consulting services by succeeding to implement hundreds of projects across the region. Our group provides the employers with specific and up-to-date consulting services with the help of technical and engineering knowledge, simulation and documentation. Engineering consulting services on procurement and installation include the followings:

• Assessment and estimation of needs, implementation of the project

• Selection and provision of tender documents for contractors

• Project scheduling and implementation and risk management

• Obtain international licenses and standards for the project rank

• Production of documents, including the project document list

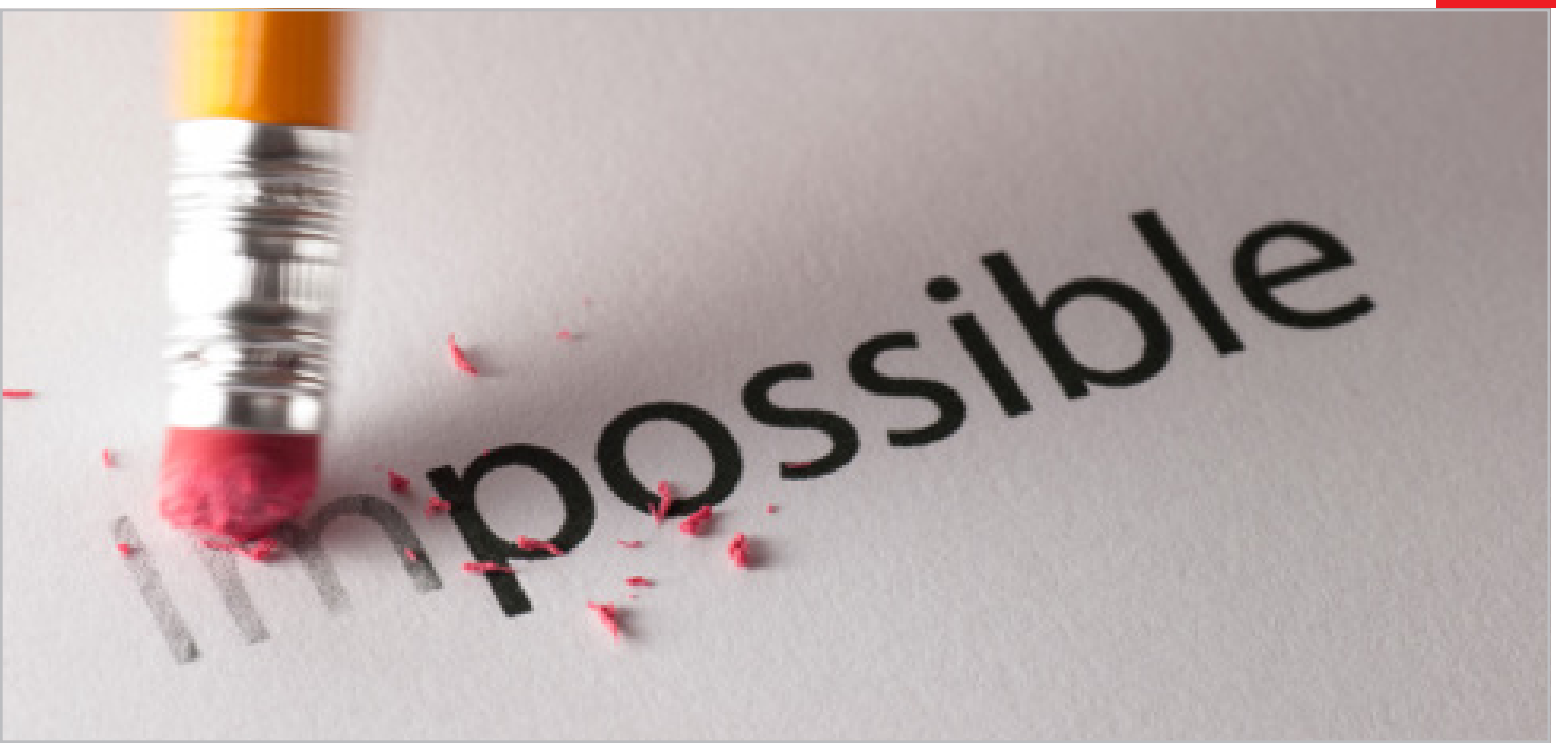
• Selection of cost-effective products for the project

• Selection of standards and technical and engineering requirements

• Implementation of systems and equipment

• Implementation of the system infrastructure

• Configuration of systems and testing of



equipment
• Delivery and operation of the project

Supply and Procurement of Equipment
The provision of technical and engineering services to employers, without limiting itself to any specific brand, is one of the objectives of Houpiran Group. By gaining technical and engineering experience and using equipment with a various brand name for installation of systems, as well as having full knowledge of the standards and methods of implementing all types of systems, our company has always provided the employers with the best and most cost-effective offers in supplying **and delivering** *equipment. Supply and procurement services include the followings:*
• Import of all technical and engineering items and equipment
• Provision of special equipment and by testing at the place of origin
• Supply of equipment under CKD and SKD condition
• Supply a variety of telecommunication items and related equipment with related approvals
• Supply security systems with various brands
• Supply a variety of items for intelligent building system
• Supply a variety of items for electrical and instrumentation system
• Supply energy and power generators
• Provide proof of good manufacturing, supervising and transportation from the place of origin
• Provide licenses and software for the project
• Perform exact calculations for selecting the required brands
• Implement the requirements for product selection
Installation, Implementation, and Operation
Houpiran has done his best to help the employers and contractors to implement the project. Our group's expertise in implementing a wide range of systems and mastering equipment and solutions has enabled the contractors to face the challenges in implementing and performing operational procedures of engineering complex projects. The provision of such services has always created close collaboration and attracted the satisfaction of the beneficiaries. Houpiran

HOUPER SERVICES

services for installation, implementation, and operation include the followings:

• Review the project documents and the production of complementary documents for facilitating processes

*• Carry out necessary coordina***tion** *with associated organizations for project operations*

• Obtain the licenses and standards from concerned organizations to speed up processes

• Implement all relevant technical and engineering infrastructure of systems

• Perform works in accordance with project schedule and risk management

• Implement and operate incomplete and defective systems

• Hardware and software integration to address system defects and deficiencies

• Programming and implementation of instrumentation and telecommunication control systems

• Implementation of various projects related to Houpiran activities

• Transfer technology to beneficiaries to facilitate repair and maintenance

• Development and production of repair documents and maintenance procedures in projects

Management Contracting

By mastering all project processes and providing a diverse range of services for all systems and equipment, Houpiran is the best provider of project management services. With the help of online communication solutions and using advanced online project management and control software, our group provides creative and up-to-date solutions for facilitating communication processes among various groups. Houpiran's management contracting services include:

• Increasing the quality of the project

• Reducing project execution time

• Integration in project definition

• Boosting the monitoring and controlling project implementation

• Improving the reliability of the project's quality and the final result

• Having a pragmatic approach to project implementation

• Reducing the risk of project implementation

• Optimum utilization of information technology in establishing a project knowledge base

• Creating synergy in the implementation of projects

• Choosing executives with the capabilities required for each project

• Preparation and submission of technical and legal documents for tenders and contracts for consulting, design, procurement, installation, and implementation.

• Installation and implementation monitoring services

• Supervision and contract management

• Negotiate with contractors and suppliers

• Evaluation of technical and commercial documents of contractors, consultants, and suppliers

EPC projects

The execution of the project by a single group specialized in the design, purchase, and implementation process is the request of most employers. Considering the provision of a wide variety of services for systems and equipment, Houpiran provides the employers with the best quality services at the stage of EPC project implementation. The services of this group in the field of EPC projects include:

• Design and production of engineering, purchase and implementation documents

• Production of project schedules according to project goals

• *Simulation and modeling of project systems in design and implementation*
• *Production of system performance scenarios*
• *Extraction of the list of materials, services and on-going activities of the project*
• *Supply and procurement of all equipment and systems related to the project and activities*
• *Insurance and transportation of equipment and conducting an inspection to ensure about the quality of/ and defects in items at the place of origin*
• *Implementing the infrastructures for facilities, mechanical and electrical equipment*
• *Installing all systems and equipment in accordance with engineering documents*
• *Integration of all systems*
• *Implementation of the project in accordance with the objectives and scenarios*

Production and manufacturing

We are always in need of new and different products to supply many items for systems and integrate hardware and software. Based on the type and the requirements of the project, Houpiran manufactures and produces the required equipment. Based on the project and its size, such equipment is very diverse and in accordance with the standards of the day. They have always been able to attract the satisfaction of employers and project beneficiaries.

• *Designing and manufacturing various types of bulk material and support equipment*
• *Designing and producing all kinds of home and industrial floodlight*
• *Designing and manufacturing industrial explosion-proof emergency equipment*
• *Designing and producing various types boards and circuits for PABX systems*
• *Designing and producing various types of computers and industrial servers*
• *Designing and producing various interfacing circuits and protocols*
• *Designing and producing various hydraulic equipment and installations*
• *Designing and manufacturing hydraulic robots*
• *Designing and manufacturing various types of tower cranes, steel and concrete support structures*
• *Designing and manufacturing various microcontroller circuits to interconnect systems*
• *Designing and manufacturing Windows and Android applications to interconnect systems*
• *Designing and producing all types of industrial electrical distribution boards*
• *Assembly and producing CKD systems and equipment*

HOUPER IS
ELV INTEGRATOR