



The right investment
Smart Home and
Intelligent Building Control
ABB i-bus[®] KNX

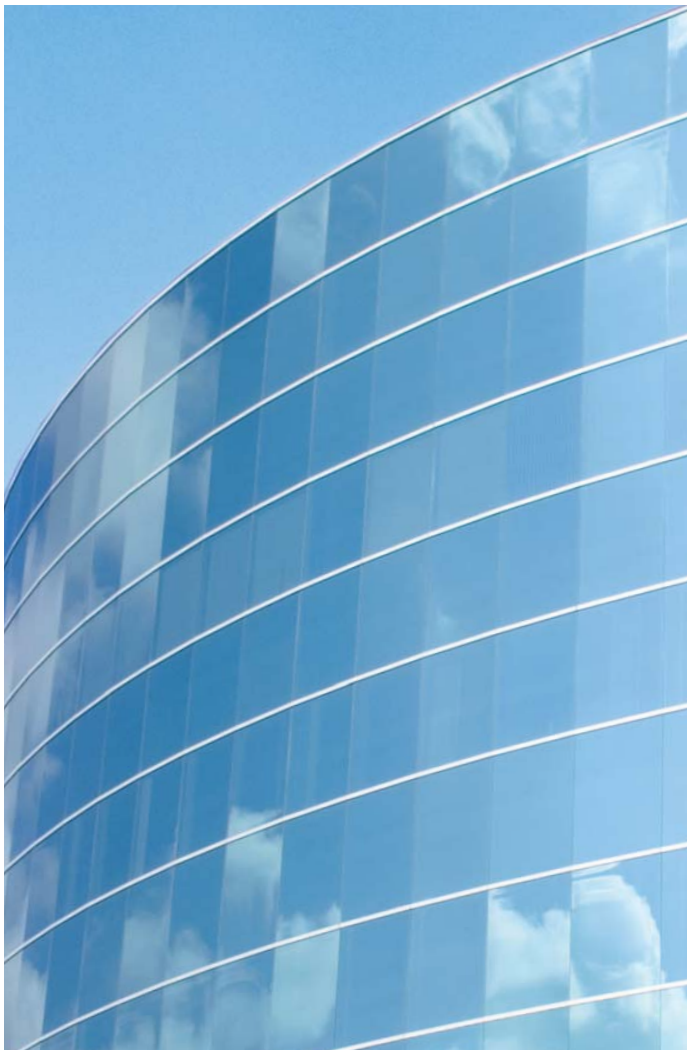
Power and productivity
for a better world™



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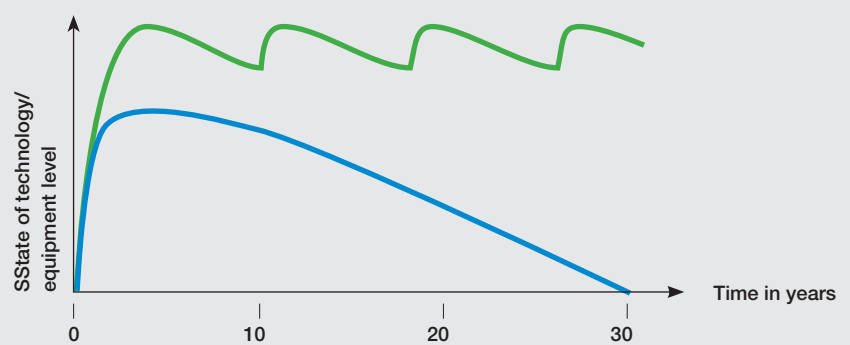
- ⏏ Energy Efficiency
- 📈 Economic Efficiency
- 🔗 Flexibility
- 🌀 Comfort
- 🌀 Reliability
- 🛡 Security





How long does a building remain up-to-date?

- without intelligent building control
- with intelligent building control



Discover the full potential of your building

Technological advancement is changing the world at an ever increasing rate. Modern communication and information systems now connect people from all corners of the earth on the world wide web and are transforming the working and living environment. The development of innovative technologies greatly affects our daily lives and offers a wealth of new possibilities. This also applies to today's buildings and those of tomorrow. The trend is clear: seamlessly integrated solutions that are exactly tailored to the building and requirements at hand.

Intelligent building control – a decisive factor

New materials and the use of pioneering technologies for utilising renewable energy are significant innovations in construction and building technology of recent years. This is particularly true of the electrical installation – the heart of every building. This important area in particular holds great potential for designing properties with considerably greater flexibility, security, economic efficiency and outstanding comfort.

**Realise this potential with smart home
and intelligent building control.**



Intelligent building control

- What exactly is intelligent building control?
- What is currently possible?
- What are the advantages?
- What makes this a secure investment for the future?



What does “Smart home and intelligent building control” mean?

A single system instead of separate control solutions

In comparison with classic electrical installations, an intelligent building control system offers noticeable advantages. All the different functional subsystems within the building are integrated via a bus connection to a single communicating system. This enables the optimal, energy efficient interaction of the subsystems, which is almost impossible with conventional technology. The system allows a large number of interactive functions to be realised, including:

- Lighting control
- Heating/ventilation control
- Climate control
- Shutter control
- Alarm monitoring
- Energy management
- Central automation

More comfort, more economy, more security

Intelligent building control systems enable:

- Realisation of a complete solution according to the wishes of your project partners and customers, whether they are buyers, tenants or operators
- Quick and simple adaptation of the functions to the individual needs and uses of the premises
- Energy-saving, tailor-made control of all electrical consumers
- The best possible safety and security for people and property

A wise investment

Intelligent building control systems mean:

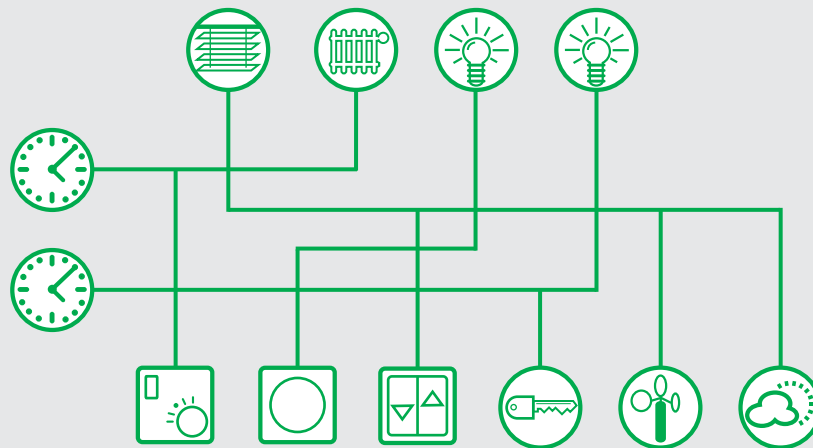
- The building will be up-to-date and profitable in the long-term
- A shorter amortisation period
- Cost advantages throughout the entire lifetime of the building: from planning and implementation, through the building phase, sale or rental, right up to operation and administration.



What is ABB i-bus® KNX?

The conventional solution

many separate installations, segregated functionality, little flexibility



The intelligent solution

KNX – one system, one standard, many interconnected functions for maximum flexibility

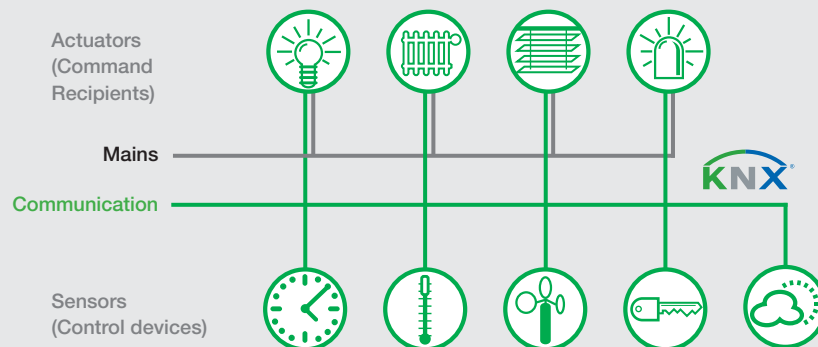


ABB i-bus® KNX – the standardised bus system

ABB i-bus® uses an additional data line to connect devices and systems, such as heating and lighting, to a networked system. If each application were designed individually – as is usual – such networking would only be possible with high costs and major technical expenditure. The bus system on the other hand consists of:

Sensors which “feel”, i.e. receive commands, such as light switches

Actuators which “act”, i.e. execute commands, such as switch actuators or dimmers

The bus which “connects”, i.e. enables sensors and actuators to communicate with one another.

ABB i-bus® KNX – a universally applicable system

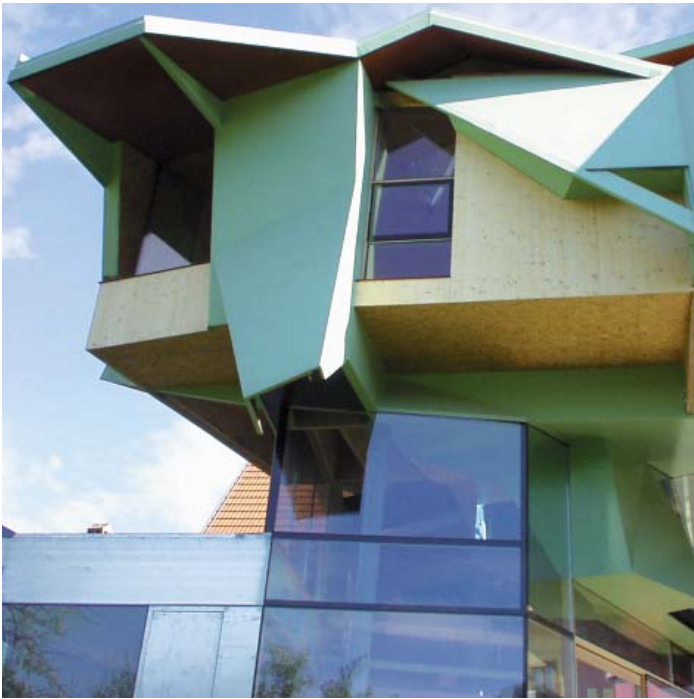
ABB i-bus® is the synonym for smart home and intelligent building control. In this innovative system, all devices communicate with one another via a single bus cable which is installed alongside the normal power lines. This means that all electrical functions are connected with one another via the bus system, both in residential and commercial buildings:

- Lighting control and regulation
- Shutter control
- Regulation of heating, ventilation and airconditioning
- Security and monitoring
- Central automation
- Energy and load management
- Audio/video functions
- Remote control/remote maintenance
- Visualisation and operation
- Interface to other systems

ABB i-bus® KNX – the most important advantages

- Reduces planning, installation and wiring costs.
- Can be expanded virtually without restriction and constantly adapted during the entire service life of the installation, and is therefore a secure investment in the future.
- Enables the integration of new functions at any time.
- Realises intelligent automation, for example lighting and heating control during absence. This saves on energy costs and makes a significant contribution to environmental protection and our carbon footprint.
- Provides simple operation and monitoring thus forming the long-term basis for lower running costs, efficient facility management and optimum building maintenance.
- Offers a great deal of individual comfort, thereby increasing the value of the building for tenants and buyers.
- Increases safety and security for both people and the building, thus protecting the investment.





What links ABB and KNX?

ABB is represented in over 100 countries with more than 100,000 employees. Our company benefits from over 25 years of experience in intelligent building control systems.

ABB develops, produces and sells a complete range of innovative products for building installation.

ABB plays a leading role in the KNX Association.

ABB i-bus® conforms to the international KNX standards and thus belongs to the leading technology worldwide for intelligent building control.

What does “KNX” stand for?

The “KNX” bus system is the world's leading smart home and intelligent building control system.

KNX came about from the fusion of some of the world's most important bus systems, among them the well-known EIB (European Installation Bus), which has enjoyed market success since 1992.

- KNX is the first globally standardised system for the intelligent networking of electrical installations for home or building automation, standardised in EN 50090 and ISO/IEC 14543.
- Over 120 internationally certified manufacturers are organised in the KNX Association.
- Thousands of buildings around the globe are fitted with over 10 million KNX products.
- KNX forms a clearly defined system platform on which the products of all certified manufacturers are compatible with one another.
- Just one common software tool is needed for the planning, project management and commissioning of all KNX installations.
- The constant enhancement of the system is coordinated in the head office of the KNX Association in Brussels.
- A tightly-knit network of highly qualified specialists guarantees optimum planning, commissioning and maintenance anywhere in the world.
- Comprehensive training courses are available at diverse locations for those new to the technology.
- KNX stands for a widespread system with ever growing acceptance around the world.





A motivating working environment

The creativity and enthusiasm of the employees are a company's most important assets. The technical infrastructure therefore plays an important role, particularly in commercial buildings: ABB i-bus® installations are the best you can offer to your tenants or buyers for a pleasant and efficient working environment.

What buyers, tenants and operators of your property can expect

Irrespective of which target group you are considering for your investment, whether you are selling, letting or operating yourself: The ABB i-bus® KNX technology offers unbeatable advantages.



Economic efficiency

No other installation system makes it possible to run the building so efficiently. ABB i-bus® is able to do this thanks to:

- Energy-saving individual room control for heating, ventilation and air-conditioning
- Optimum lighting tailored to the requirements at hand
- Intelligent shutter control for making use of daylight and the sun's energy
- Optimisation of energy consumption via acquisition and evaluation of operational data from the building
- Transparent visualisation for supporting facility management



Energy Efficiency

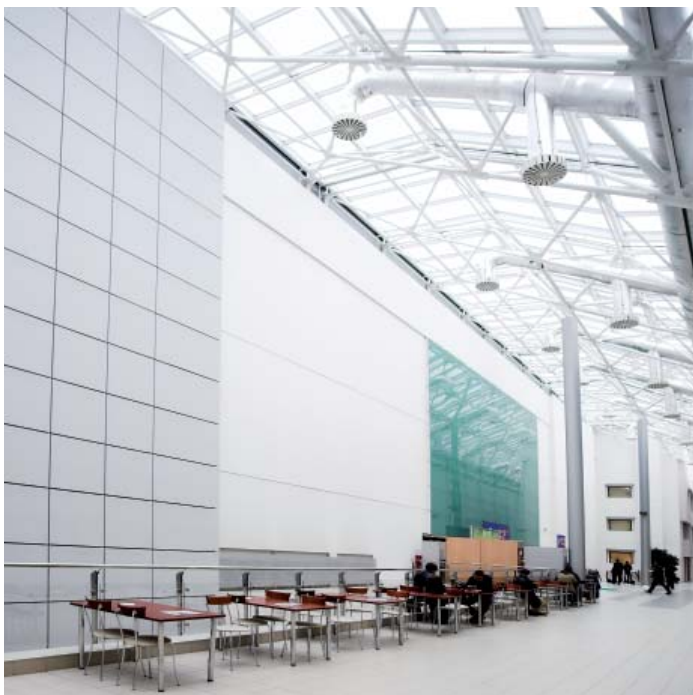
Climate change and growing shortages of resources are big challenges of our time. In addition, many countries around the world are dependent on imported energy. Efficient and sustainable energy usage is therefore an urgent necessity. Following the areas of transport and power generation, building technology is the largest consumer of energy. Heating, cooling and lighting in residential and office buildings make up approximately 40 % of the energy consumed in the industrial nations.

Building system engineering supported by intelligent and networked room and building controllers (lighting, sun protection, heating, ventilation and air conditioning as well as the other building engineering systems) contribute significantly to conservative and requirement-based energy use. The worldwide standard for KNX technology enables energy savings in the double-figure percentage range and also provides enhanced flexibility with planning and implementation, a high level of investment protection and a high level of availability.



Reliability

ABB i-bus® systems are extremely high-quality, future-proof installations. The bus system enables considerable simplification of building monitoring and maintenance. Central acquisition of the relevant values, immediate error messages or possible corrections via remote maintenance – these are all measures which guarantee the reliable operation of the building.





Comfort makes all the difference!

Comfort means designing life more conveniently. Simple interaction between users and buildings is therefore a central aspect of smart home and intelligent building control systems, as intelligent technology also means user-friendly technology. The design, too, plays an important role. Products and solutions from the ABB i-bus® product range combine both of these.

Tailor-made comfort

An attractive argument

Technological advancements need to be tangible in order to change people's environment positively. Smart home and intelligent building control systems from ABB enable you to set your project apart from the rest in this field.



Pure modern comfort

Needs are different. With ABB i-bus® it is possible to practice the greatest individuality. Now everyone is able to adapt their environment to their wishes. Setting the room temperature, providing the ideal lighting for an important presentation in the conference room and much more, all at the touch of a button.

What's more, small but irksome day-to-day tasks are rendered unnecessary by the innovative KNX technology. For example, lights are automatically switched off when there is no one in the room or the shutters are safely raised in the event of strong wind. You can define a level of automation that is virtually unlimited.



Flexibility

In buildings with a lifespan that generally covers several decades, it is only a matter of time until rooms change use. So it's good if the building functions can be adapted to the needs of the user simply and at low cost during this time. With an ABB i-bus® installation, these requirements are implemented quickly and easily by reprogramming or expansion. What's more, this 'programmable flexibility' gives you more time in the planning phase to take into account the wishes of your customers.



Safety and security for people and property

Protect your investment against damage and loss of value, and the occupants from risk to life and limb. Integrated ABB i-bus® solutions encompass all relevant security functions:

- Intrusion detection
- Fire and smoke detection
- Technical alarms
- Panic and emergency call functions
- Presence simulation
- Automatic lighting





A worthwhile investment

ABB i-bus® pays off, giving you a number of benefits:

- High level of investment security
- Fast amortisation of the investment
- Major savings potential in running costs
- Profitable resale

Investment and return on investment

See for yourself!

Save on and multiply your capital right from the outset

Technology and comfort are a big plus – and if the figures are right, then you're sure to have made the right investment.

At first glance, it appears as though the investment costs are greater than the expenditure for a conventional installation. As an experienced investor, you naturally look at the entire lifecycle costs. In the planning and building phase, the initial material investment is greater due to the considerably larger functionality of the system. Yet, when you take into account all the expenses, the cost relation turns around: in the long term, savings of up to 30 % can be made compared to the usual costs.

During building

ABB i-bus® saves time and money compared to a functionally comparable conventional installation right from the start of investment phase. This is thanks to:

- More flexible planning
- Reduced installation costs
- More efficient commissioning

During operation

The transparent acquisition of important building data and processing of fault messages significantly cut facility management and maintenance costs. But that's not all. Compared to buildings without intelligent building control systems, energy saving figures can be very impressive depending on the building:

- Up to 60 % of electric lighting energy through constant lighting control, presence detection and intelligent shading
- Up to 25 % of heating energy and 45 % of electric cooling energy through functions such as individual room control, presence detection and sun shading

During sale/letting

A building equipped with ABB i-bus® gives you clear competitive advantages. Profitability is increased through:

- Greater attractiveness and hence a higher market value for your property as a result of the infrastructure quality
- A maximum building life cycle, which extends the return period
- Verifiable productivity benefits for your customers

ABB i-bus® KNX

The logical decision for your project

Due to the great system flexibility and functionality, KNX technology can be used in any type of building. It offers efficient advantages for all intelligent building control applications and therefore perfectly rounds off your project.

ABB i-bus® KNX is currently in place in over 60 countries with satisfied customers in thousands of projects of all kinds, such as in:

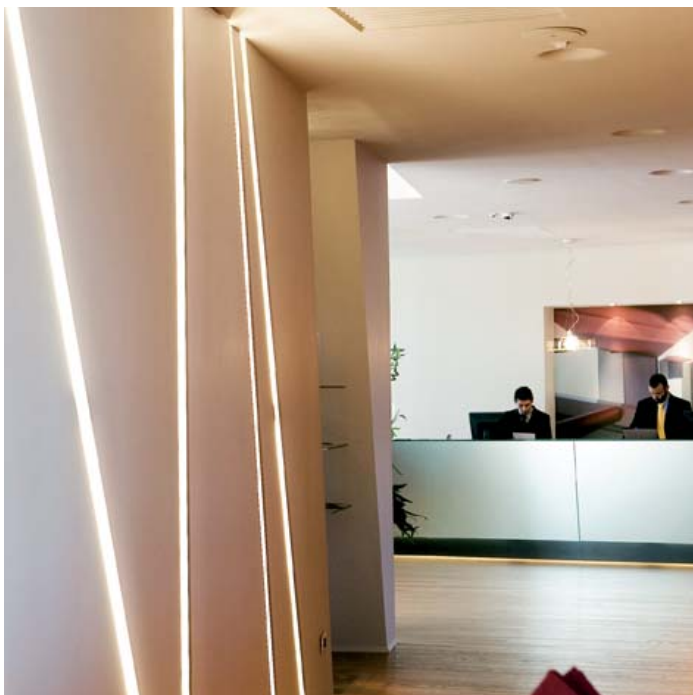
- Office buildings
- Bank buildings
- Retail trade/shopping centres
- Flats/apartments
- Private houses/villas
- Hotels/restaurants
- Stadiums/sports venues
- Hospitals/clinics/care homes
- Schools/universities
- Churches/museums/libraries
- Event/leisure buildings
- Industrial/production buildings
- Airports/stations



Hotels

The special assets for your investment

-  **Economic efficiency**
-  **Flexibility**
-  **Comfort**
-  **Security**



Hotels

are transformed into oases of well-being with ABB i-bus®. It enables you to meet your guests' high demands and expectations in terms of modern room comfort; a night in your hotel becomes a special experience.

What's more, ABB i-bus® makes a significant contribution to efficient processes in daily hotel operation. The "networked" system gives you an up-to-the-minute overview of all rooms and systems and reacts quickly in the event of malfunctions.

For the operator – and for you as the investor – the low-cost overall economic balance is not the least of the system's advantages. Yet comfort and saving energy often contradict one other – not so with ABB i-bus®. It not only makes the intelligent control of the room environment in accordance with requirements economically attractive, but also increases the well-being of your guests.



Economic efficiency



Flexibility



Comfort



Security



Hospitals

demand extremely high levels of reliability, security and economic efficiency of the electrical infrastructure. The combination of tried and tested technologies, permanent transparent monitoring and secure processing of fault messages makes ABB i-bus® the ideal solution for these highly sensitive facilities.

ABB i-bus® enables you to design procedures efficiently, especially in the planning and implementation phase of such demanding projects. This is an essential prerequisite for completing buildings on schedule.

Whether in the public or private sector, cost management is a key factor in the health industry. ABB i-bus® makes a decisive contribution to preventing unnecessary energy consumption in day-to-day operation.

Office Buildings

The special assets for your investment

	Economic efficiency
	Flexibility
	Comfort
	Security



Office Buildings

are classic areas of application for intelligent building control systems. ABB i-bus® is ideal for the requirements of modern offices. At the top of the list is employee productivity, which is strongly dependent on the working environment. ABB i-bus® guarantees optimal shading and a comfortable room temperature, thus making an effective contribution to a good working atmosphere.

Lighting and climate control make up the largest proportion of electrical energy costs in office buildings. Depending on how the system is actually employed, the ABB i-bus® enables savings of up to 60 % on normal costs.

The KNX technology therefore visibly increases the efficiency of your office building – a decisive competitive advantage for tenants or investors. After all, it is essential to position yourself on the market with attractive, efficient properties.

Schools

The special assets for your investment



Economic efficiency



Flexibility



Comfort



Security



Schools

are dependent on the reliable observation of different processes which vary from day to day in order to ensure the smooth running of the school. The extensive automation options of ABB i-bus® allow the greatest precision in terms of building control.

Schools often run on a tight budget. The ‘as needed’ control of lighting, shading, heating or ventilation leads to significant savings in running costs and protects the environment.

The integration of monitoring and security functions into the “networked” system also takes into account the fact that public institutions have particular needs with regard to personal and operational safety.

Apartments and Villas

The special assets for your investment

-  **Economic efficiency**
-  **Flexibility**
-  **Comfort**
-  **Security**



Apartments and Villas

become more attractive with ABB i-bus® and increase the residents' quality of life. A decisive factor when purchasing or renting a property.

With ABB i-bus® you combine unparalleled functionality with timeless aesthetic design. The ability to freely control the living environment according to individual wishes or the integration of modern lifestyle functions, such as audio/video and internet, are significant criteria for comfort and quality of life in today's residences.

ABB i-bus® gives luxury a whole new meaning. For you as an investor, this means attaining higher rental or sales prices. Satisfied residents – satisfied operators – satisfied investors!



Economic efficiency



Flexibility



Comfort



Security



Airports





operate around the clock. Lighting, shading and air-conditioning are needed constantly and must work without problem. ABB i-bus® ensures that travellers have a pleasant stay and that the ground staff can work professionally and to full capacity.

As an additional function, the bus system can monitor the widely branching electrical systems and automates standard processes, such as recording energy consumption and billing of the airport shops.

ABB i-bus® also stands out thanks to its compatibility, which enables it to be integrated seamlessly into the IT environment via the local area network (LAN). This gives you a high level of transparency and low infrastructure costs.

Industrial Buildings

The special assets for your investment

-  Economic efficiency
-  Flexibility
-  Comfort
-  Security



Industrial Buildings

often house expensive and sensitive production plants. The building must protect this equipment and the associated investments. The right lighting at the workplace or fast reporting of operating malfunctions, for instance, are all part of securing reliable production. ABB i-bus® is the right investment here, ensuring a safe working environment which is reliably monitored and with lower running and maintenance costs.

In order to maintain control of even the biggest production hall, bus lines can be integrated into the local IT network and all status and fault messages for the building can be incorporated into the visualisation and operating station of the industrial plant. This is a significant step towards simpler facility management.

In this way, your building too can make its contribution to production stability and investment protection.

Sports Venues and Stadiums

The special assets for your investment



Economic efficiency



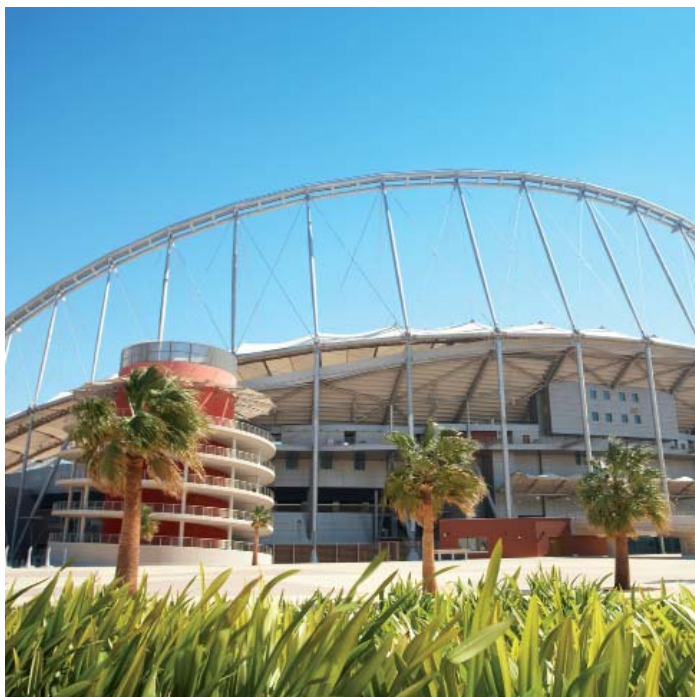
Flexibility



Comfort



Security



Sports Venues and Stadiums

are increasingly turning into multipurpose arenas. This makes new demands of the electrical installation system, with every type of event posing a different challenge. Here too, however, ABB i-bus® is truly multi-talented. Whether bright as day for sports events or atmospherically dimmed for music concerts – the event is always shown in the right light. Pre-programmed lightscenes and automatic procedures make operation easy.

In addition to the obvious functions, ABB i-bus® also works reliably in the background, processes fault messages, displays current consumption values, issues notifications when limits are exceeded and thereby helps to run the building safely and efficiently.

Thus every event is a pleasure for the visitors and a success for the operator.

Discover the full potential
of your building

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