



Web
enabled
intelligent
building
control

The logo for interiorautomation, consisting of a stylized blue 'a' icon followed by the text 'interiorautomation' in a sans-serif font.

Pre-Qualification Document



Technology Philosophy

There is a current trend in all markets that different types of products and systems are using IP networks as their fundamental operating utility, thus quickly becoming a part of our Internet enabled World.

Energy saving intelligent building control systems from Interior Automation (L.L.C.) are able to integrate the IT and building automation sectors onto one converged IP-based platform using PC-based control technology and IP based Software. Some of the advantages of using an IP-based intelligent building control system include:

- ✓ Energy Savings for reduced Carbon Emissions
- ✓ Cost Optimization
- ✓ Enhanced Site Safety, Security, Operation and Maintenance
- ✓ High impact buildings (Smart Buildings) that support the client's needs in their individual markets
- ✓ Incremental Revenue Generation through value-added services

Interior Automation (L.L.C.) is offering our clients a full range of project services from our office in the UAE to provide complete energy saving intelligent building solutions that are scalable in size and budget depending on the clients' requirements.

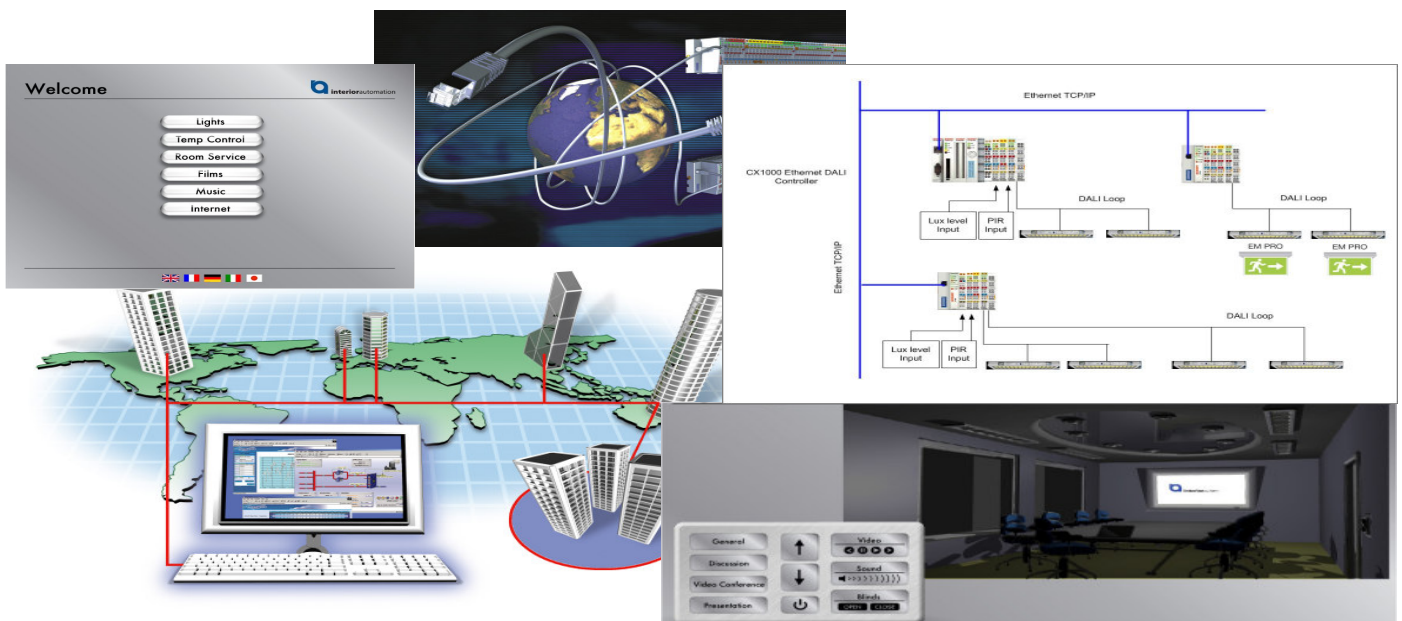




Table of Contents

TECHNOLOGY PHILOSOPHY 2

TABLE OF CONTENTS..... 3

COMPANY PROFILE..... 4

SOLUTIONS 5

 LIGHTING CONTROL SYSTEMS..... 5

 HOME AUTOMATION..... 6

 AUDIO VISUAL SYSTEMS 7

 EASY ENERGY SAVING SOLUTIONS 8

APPLICATION CASE STUDIES 9

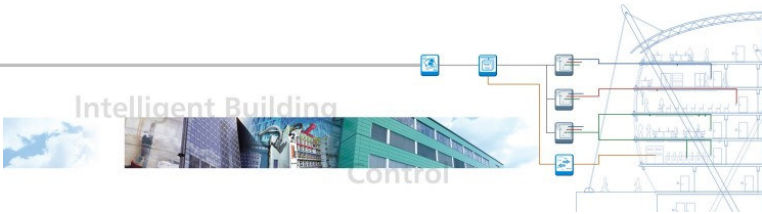
PROJECT REFERENCES 10

Middle East..... 10

International..... 10

SUPPORT SERVICES..... 11

CONTACT 11



Company Profile

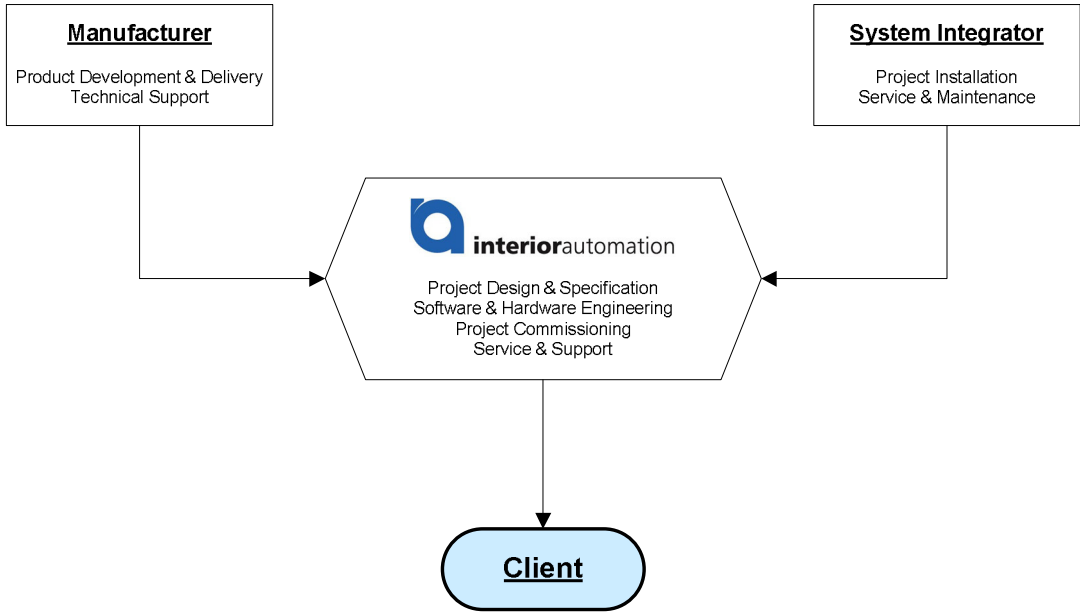
Established History in the United Kingdom:

- Hayes Control Systems Ltd. founded in 1991 has been the agent for Beckhoff Automation GmbH since its inception working with both industrial as well as building automation
- Interior Automation Ltd. Founded in 2000 to separate the building automation division from the Beckhoff and Industrial Controls side of the business.

Interior Automation was established in the U.A.E. in 2006 as a Jebel Ali Free Zone Company. We have since then become a local L.L.C. company and are based in our office in Al Barsha, Dubai.



Interior Automation believes in the use of a successful network of partners in order to ease the use of technology deployment for the end client:



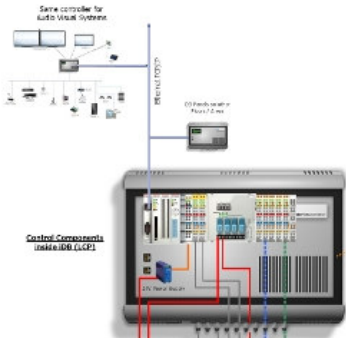
The mission of Interior Automation (L.L.C.) is to provide our clients with a complete technology deployment service for energy saving intelligent building control systems. It is our aim to use these systems to save costs for our clients whilst helping our global environment through the reduction of carbon emissions.



Solutions

Lighting Control Systems

The main energy saving functions of our lighting control systems are the following:



- ✓ Dims and Switches Lights off after set delay time of no occupancy
- ✓ Lux sensors detect daylight level and maintain appropriate lighting level in the room by dimming lights
- ✓ Switched outputs to fan coil units can change HVAC set point temperature and fan speed to low after set delay time of no occupancy
- ✓ Automatically adjust motorized blinds/shading devices to decrease the thermal load and/or control amount of

**DALI
DSI
1-10V
Automatic Relays
Phase Dimming**

The system gives full flexibility in using different types of I/O to control Light fixtures, FCUs, blind motors etc.

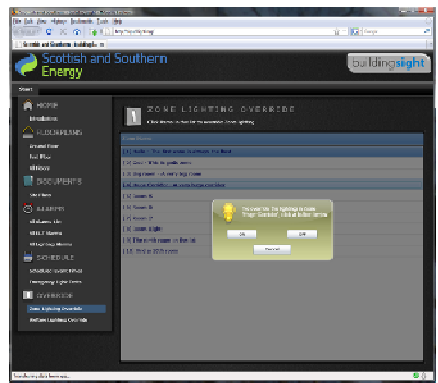
Integration for third party signals with all major Building Automation protocols supported.

**EIB / KNX
LonWorks
Somfy IB+
BacNET
Modbus / OPC**

The buildingsight suite of IP enabled (via Web Browser) software allows the operator of the building to access full visualization, reporting and alarms from the control system displayed

from the main Control PC. Manual Override functions can be accessed from the software also to control each individual area.

Overview of Sensors			
	Symbol	Product	Coverage
DALI MSensor (PIR + Lux)			
Analog Lux Sensor			
24V DC Motion Sensor 360°			
24V DC Motion Sensor 90°			
Ultra Sonic Sensor			



Different types of sensors are available to tailor for any type of area's application and sensitivity requirements.



Home Automation

Home Automation technology is becoming more widespread, especially in technology savvy markets such as the U.A.E. and other GCC countries. Consumers enjoy the benefits of the easy to use systems that allow you to select scenes from wireless touch panels for watching your favourite movie, or control the audio system throughout the entire house from one remote control. We think that home automation should not only be about comfort on the couch however, and have developed a package that creates a basis for achieving significant energy saving as the main feature of the system. The concepts for this are very simple, for a simple **human action** there is a **system reaction**:



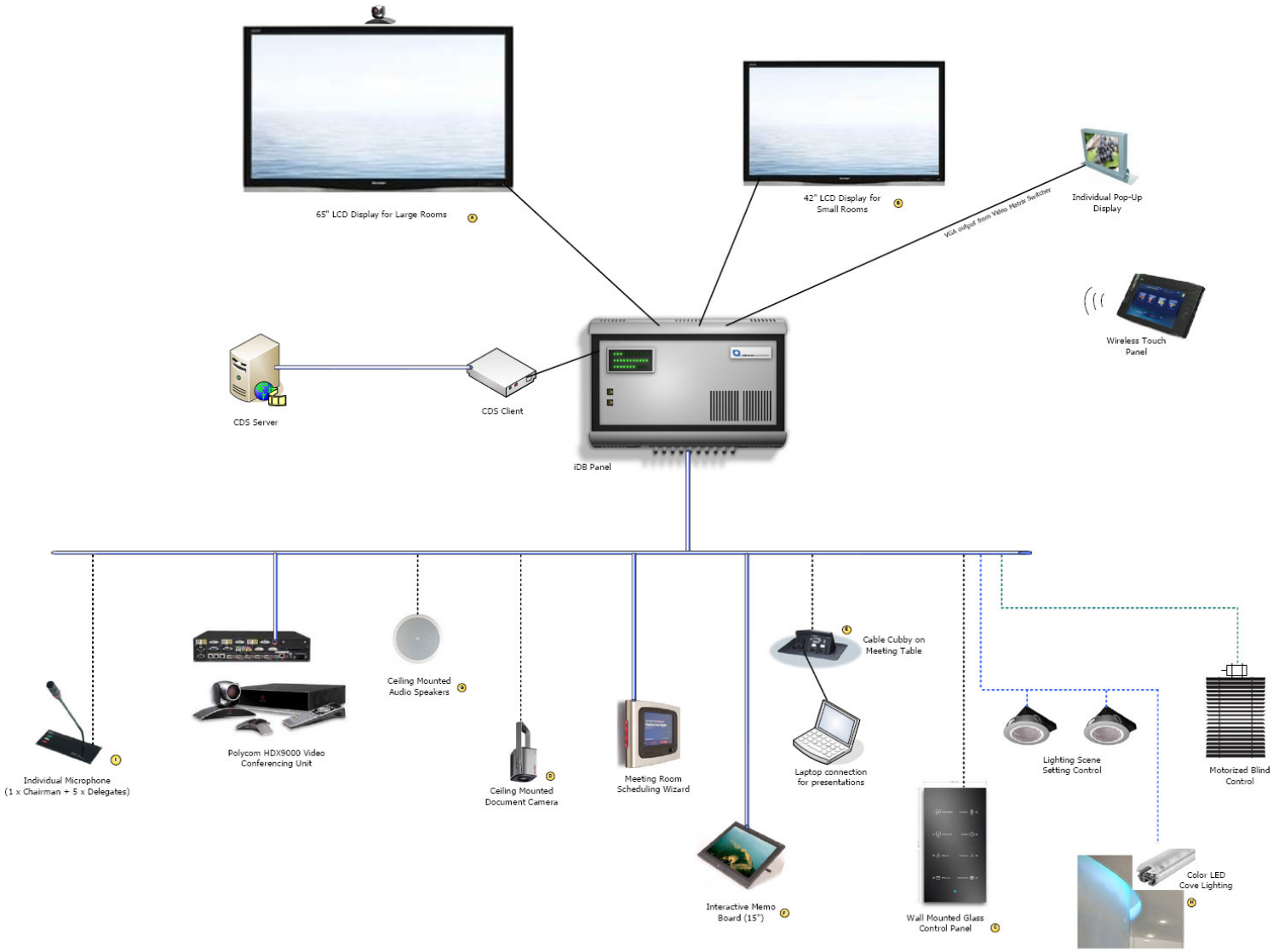
Entering and Leaving the Bathroom	A Motion Sensor detects the presence and turns the lights on, after leaving the bathroom, the lights automatically turn off
Opening a Balcony Door or Window	A Contact Sensor automatically turns off the Air Conditioning if the door is left open for longer than 30sec
Going to Sleep at Night	'Night' mode is activated; the A/C will keep your set temperature for 60min while you fall asleep and then raise the temp. by 4-6°C during the night and lower it again 30min before your alarm is scheduled
Leaving the House	All motorized blinds in the Home are closed to reduce thermal load. All lights are turned off and the set-point temperature of the A/C is increased by 4-6°C. Appliances connected to "non-essential" power sockets are turned off
Taking a Shower	The Water Heaters are controlled by a timing system that is adjusted to your living habits and runs the water heaters as needed instead of 24/7
Caring about the Environment	By monitoring the energy consumption for different parts of the home (Lighting, HVAC, Appliances etc.) you can see real graphs of your consumption that allow you to act more energy efficiently

The other most important factor in home automation is the user interfaces. We have a package that can be tailored to suit any style of house:



Audio Visual Systems

The requirements for meeting and conference rooms in buildings for sophisticated yet easy to use Audio Visual solution are growing every day for businesses around the world. Be it the use of advanced IP HD Video Conferencing or just simply connecting a laptop to a Projector Screen without having cables visible everywhere, Interior Automation has come up with a range of solutions that begin at the most economical and scale to the most high-tech.



Our AV Solutions include the following main components:

Audio Systems Microphones Video Conferencing Lighting Control Projectors	Document Camera Scheduling Wizard Interactive Boards HVAC Control Projector Screens	Cable Cubby Glass Wall Plates Touch Screens Digital Signage LCD / Plasma Screens	WiFi Touch Screens Color LEDs Blind Control Pop-Up Displays Rack and Peripherals
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Easy Energy Saving Solutions



If no-one is present ...



... Turn the lights OFF !

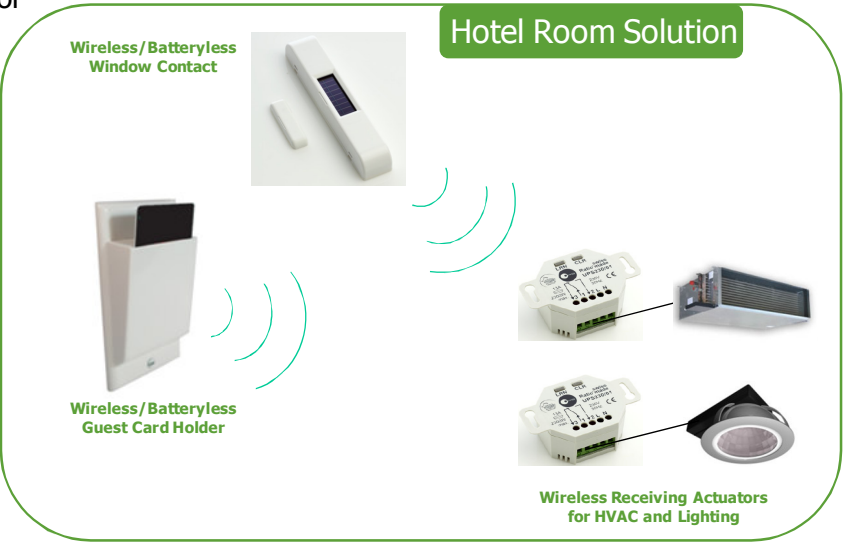
The concept of **Easy Energy Saving Solutions** is one of simplicity. Targeted specifically for existing buildings, these stand alone systems are designed to provide owners and operators with a simple to install system for retrofit that reduces energy consumption and saves cost.



As a member of the EnOcean Alliance, Interior Automation has developed a series of packages that include wireless and batteryless control devices that can be installed by any qualified electrician without the need for pulling new cables, laying conduits or doing any system programming.

The solutions include control of HVAC as well as lighting as can be seen in the example for a hotel room retrofit package.

By reducing the complexity of these solutions, the CAPEX can be reduced for the client, this also ensuring a speedy payback and significant return on investment through the energy savings that are made!



Application Case Studies



Client: Credit Suisse

Contractor: Cityspace / Streamline

Consultant: SEED Building Services (MEP) Consultants

Location: DIFC, Dubai (UAE)

Project Awarded: June 2007

Project Completion: September 2007

For the Fit-Out of the new Credit Suisse office, the client was looking for a computer controlled energy saving lighting control system. By using a Beckhoff embedded PC platform, we were able to integrate intelligent light fixtures using the Tridonic.Atco DALI ballasts as well as automatic switching relays, motion control sensors, PIR movement and lux sensors and IR-remote control operation. The system runs on a time & occupancy schedule with daylight sensors in all window offices to dim the lights to an optimal operation level – total energy savings are expected to be 50-75% per annum.

Client: Majid Al Futtaim Group LLC

Contractor: Mivan Depa

Consultant: McNally Design International

Location: Deira City Centre, Dubai (UAE)

Project Awarded: September 2006

Project Completion: March 2007



The Magic Planet is a family entertainment centre that provided a complex scope of works. A complete turn-key design and build solution was offered by Interior Automation together with our system integrators (Data Processing Systems LLC) to include automated web based control of lighting systems (DALI, DMX and ASR), audio systems, video projectors, access control system, CCTV, ride control automation, BMS integration, all of which ran on an IP based platform. The operation manager of the Magic Planet now has the ability to control his entire venue from a wireless tablet PC.



Client: Kempinski Hotel

Contractor: Direct with Client

Consultant: Design & Build by IA

Location: Ajman (UAE)

Project Awarded: July 2008

Project Completion: October 2008

The Kempinski Hotel in Ajman was looking to renovate their main lobby and first floor public areas and had a firm target of achieving significant energy savings in place. In order not to disturb any of the existing ceilings, a wireless batteryless EnOcean system was used to collect the Lux levels and provide phase dimming from the Lighting Control Panels for daylight dimming as well as automatic relays for on/off control. Including the provision of new light fittings by IA with energy saving lamps, a total energy reduction of between 70-80% was achieved.

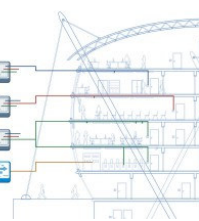
Project References

Middle East



International

- University of Cambridge, UK
- Microsoft HQ, Germany
- Paramount Studios, California, USA
- Ministry of Defence, Watford, UK
- BSH Bosch und Siemens Hausgerate GmbH at 'Aviva'
- Sheraton Hotel Palma, Majorca, Spain
- South African Revenue Services Durban, South Africa
- Allianz Head Office, Stuttgart, Germany
- RNAS Culdrose Helicopter Base, Cornwall, UK
- European Central Bank, Frankfurt, Germany
- The Pan Pacific Hotel, Vancouver, Canada
- Microsoft House of Today, Munich, Germany



Support Services

The support of the customer is the most integral success factor for the completion of any major project, and the philosophy of Interior Automation (L.L.C.) is to provide our clients with full end-to-end project management support. Our services include:

- Full Project Management Documentation at all stages of the project
- One point of contact to manage the project for the end client
- Complete commissioning of the system by our qualified automation engineers
- A network of local integration partners for installation of data cabling systems, wiring and system hardware integration
- Local after sales service support from our Dubai office as well as from our regional integration partners
- International support from our service centre in the UK, as well as manufacturers support (international as well as local)



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