CDI International Building Services Engineers

Office Sector Projects

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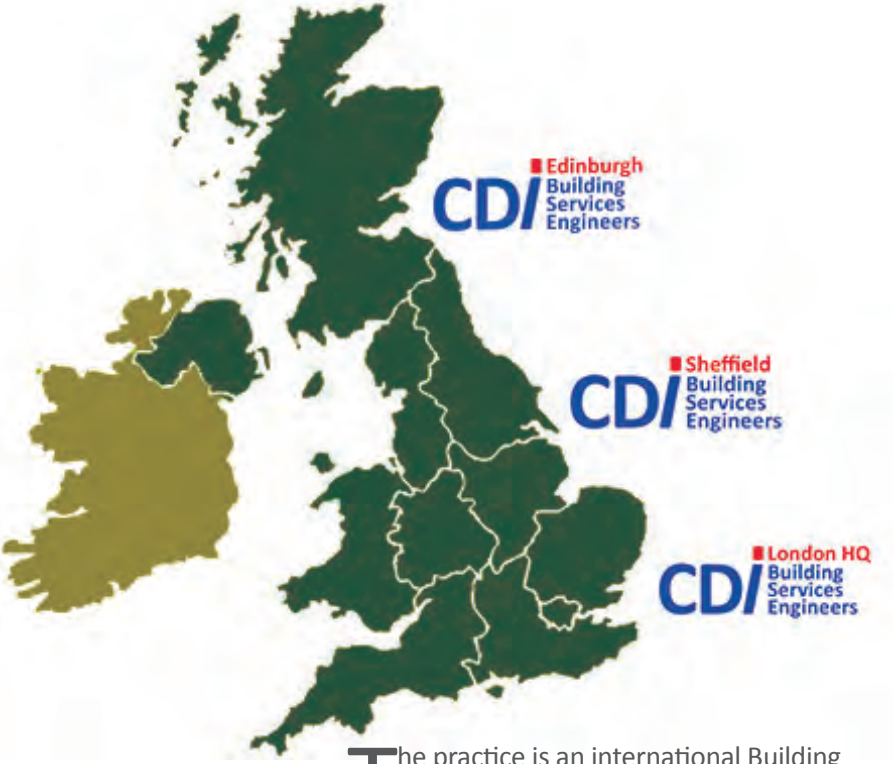
About CD International /



The practice is an international Building Services Consulting Engineers having completed award winning projects throughout Europe with construction values up to £300 million.

Location

The company has offices in London, Edinburgh and Sheffield with associate partners throughout Central and Eastern Europe, Central Asia and the U.S.

Sectors

Market strategy has been committed to developing consultancy appointments throughout all areas of the commercial sector including:

- Mixed-use & Retail
- Leisure and entertainment
- Office & tech hubs
- Hotel & Resorts
- Residential
- Listed & Heritage

The business strategy is also focused on a European and worldwide operation with a number of major projects successfully completed in continental Europe, Africa and the Middle East.

Working with lead architects and local partners on international schemes, we developed unique experience and ability to combine knowledge from various practices and implement it into the real project.

Services

The company offers a full range of professional services which can be individually tailored to meet specific client needs as follows:

- Mechanical Design
- Electrical Design
- Public Health Design
- Fire Protection and Life Safety
- Vertical Transportation
- Infrastructure
- Low energy design
- IT communication
- Low Carbon Energy assessment
- BREEAM assessments
- Thermal Modelling
- Energy audits and energy appraisals

Structure and Experience /

Working closely with architects and local specialists, we implement the latest technologies and modern approach to deliver comfortable and sustainable living environments.

Structure

- Project Directors remain an integral part of the design process.
- Shortened communication channels ensure a fast response time
- Project teams capable of handling a wide range of project types
- Individual groups draw upon the shared experience and resources within the company.

Mixed use projects

CD International engineers have been working under the multiple projects in mixed use and residential environment for the past 25 year.

We have highly qualified team, with experience in design of building services for developments in Europe, including Russia, Ukraine, Bulgaria, Albania and the UK.

Experience

We have got strong technical engineering understanding of the projects in all building sectors and across many countries.

Geography of works

- Albania
- Armenia
- Belarus
- Croatia
- Czech Republic
- France
- Germany
- Macedonia
- Moldova
- Montenegro
- Poland
- Russia
- Serbia
- Ukraine
- England, Scotland & Wales
- Kyrgyzstan
- Kazakhstan
- Lebanon

Projects locations /

Sectors

Market strategy has been committed to developing appointments throughout all areas of the commercial sector including:

– Mixed-use and Retail
– Hotels, Leisure resorts
– Business centres & offices
– Residential: Private and multi-storey
– Heritage buildings.

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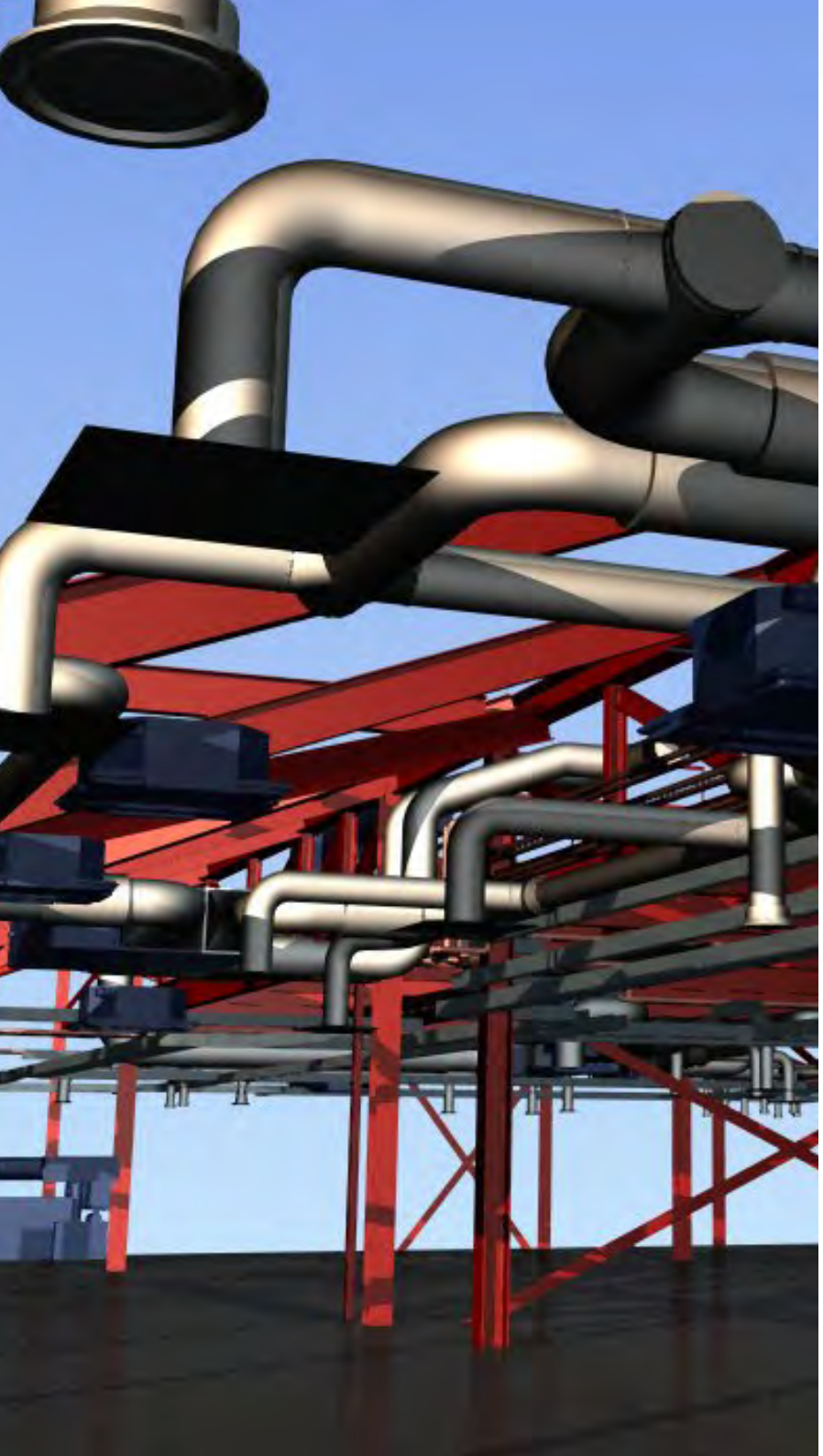
– Albania
– Czech Republic
– Germany
– Kazakhstan
– Moldova
– Russia
– Serbia
– Spain
– UK
– Ukraine



Technology & BIM

We have been using IESVE for Engineers modeling Software, SketchUP Pro and Revit® Architecture and MEP for most of the projects in the UK and abroad. This allows us to design comfortable buildings that consume significantly less energy and incorporate low-carbon and renewable technologies.

IESVE© for Engineers

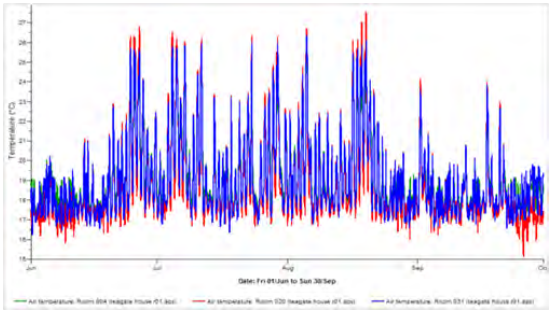
is a cutting-edge suite of building performance simulation tools. Used by leading sustainable design experts across the globe, it creates understanding of the performance impacts of different low-energy design strategies.

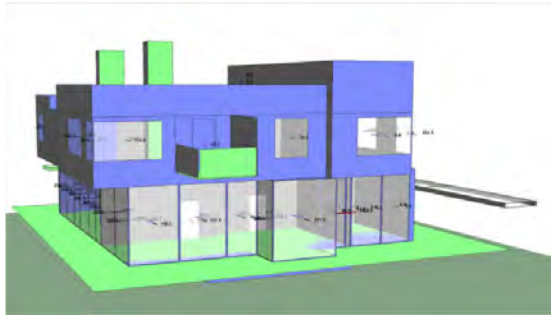
Autodesk Revit ©

REVIT© allow multiple disciplines work together on the same project. With REVIT© we can perform collision checking, which detects if different components of the building are occupying the same physical space.

SketchUP

SketchUP allow us to draw and present the project in 3D format, analyse best location and dimensions for Brise Soleil and has may other useful applications.





Energy efficient offices/

Offices of all sizes and layouts need energy to deliver the same basic needs; lighting, heating, office equipment like computers, printers and copiers, and in some cases, air conditioning. Choosing equipment carefully and looking closely at how it is controlled can make a great difference to energy use, energy costs and carbon emissions. The first step is to realise where the energy you use goes.

Energy Modelling

For all new built office building we use BIM and thermal modelling . Expertise in design modern offices that our engineers have help them to design comfortable space with will be easily modified and re-configure for different occupiers.

Technologies

We introduce readily available, cost effective technologies that were successfully implemented in office environment to save energy. These include

- Condensing natural gas boilers
- CHP
- Compact fluorescent lamps
- Heating & hot water Lighting
- Low energy computing equipment
- Thermostatically controlled radiator valves
- Improved design and use of A/C systems
- Replace electric room heaters with natural gas room heaters
- Hot water tank lagging
- Lighting timers
- Cooling, fans, pumps, controls

Offices & Techno hubs /

Nabarezhnaya Towers, Moscow City Russia

Omnia office centre, Kiev Ukraine

Juxon house, London, UK

Cellular Operations, Swindon, UK

Milyutinky office centre, Moscow, Russia

180 Strand, London, UK

Mixed Use Development / Estonia

Tallinn / Porto Franco

The concept of Porto Franco was created by Tom Klinghoz from the international London-based architectural bureau Chapman Taylor. Openness, excellent location, and world-class architecture create a diverse urban environment, shifting the centre of Tallinn closer to the sea. Porto Franco — the new heart of the city, making Tallinn a fully-fledged seaside city.

Project Outline

It is the largest commercial and office centre in the heart of the city, with total area of approximately 160,000 sqm, and includes the shopping centre (GLA 40.000 sqm), the largest hypermarket in the city centre (6,600 sqm), cafes and restaurants, underground parking for 1,250 cars and the office centre (GLA 30,000 sqm).

Architect: Chapman Taylor
Developer: Porto Franco OU
Services Design: CD International BSE, UK
Total Proect Cost: EUR 196,000,000

CDI has completed MEP serviced design, in collaborative partnership with design team from Estonia, Finland and the UK.

We use BIM to create, manage and share the properties of the development throughout its design cycle. Model of the building has incorporated graphic, physical, commercial, environmental and will include operational data later. Thermal modelling provided servicing strategy and solutions that can be cost-effectively optimised against agreed parameters.

Total area of 150,000m^2, including:

- a shopping centre with the total area of 32,000m^2
- hypermarket with the total area of 4,220m^2
- cafés and restaurants with the total area of 5,700m^2
- summer terraces and balconies with the total area of 2,500m^2
- fashion stores with the total area of 14,000m^2
- underground car park for 1,170 vehicles
- office premises for rent with the total area of 25,530m^2
- hotel 8,600m^2.

Client: Soho Works
MEP: CD International BSE, UK

Mixed use / UK

180 Strand / London

180 Strand is a fascinating project. Located in the heart of London between busy West End and the embankment of the river Thames, the project is redevelopment of the existing office building built in 70s.

Project outline

The renovation of 180 The Strand is one of the most complex and exciting projects in our portfolio. Located in the heart of London between busy West End and the Embankment of the river Thames, the project consists of redevelopment of three existing office blocks.

History

Built in 1965, Frederick Gibberd's Portland stone building has become a hub for creative industries: multiple design agencies, an office of the publisher for Dazed and Confused and the home for London Fashion Week shows. With an arts programme curated by The Store and 180 Strand, this iconic brutalist building provides a new space where innovative businesses and visionary talents can collaborate.

Task

The main idea of redevelopment is to adapt an outdated building to suit the current and future style of working, living and entertaining. Basement and ground levels of a former car park will be transformed to an exhibition and conference space, above them there will be floors dedicated to co-working spaces, offices and complimentary retail and entertainment tenants. Further above there will be serviced apartments, gym and other amenities.

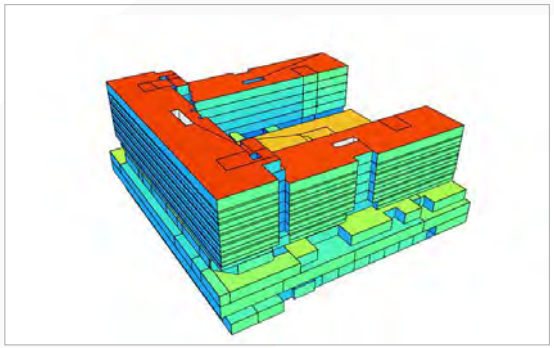
We have MEP design performance specification and construction supervision role for the fit-out and provision of landlord services.

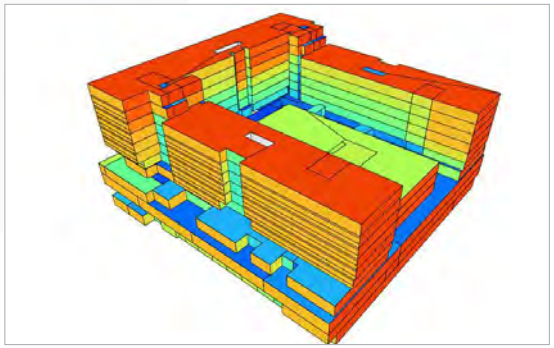
Progress

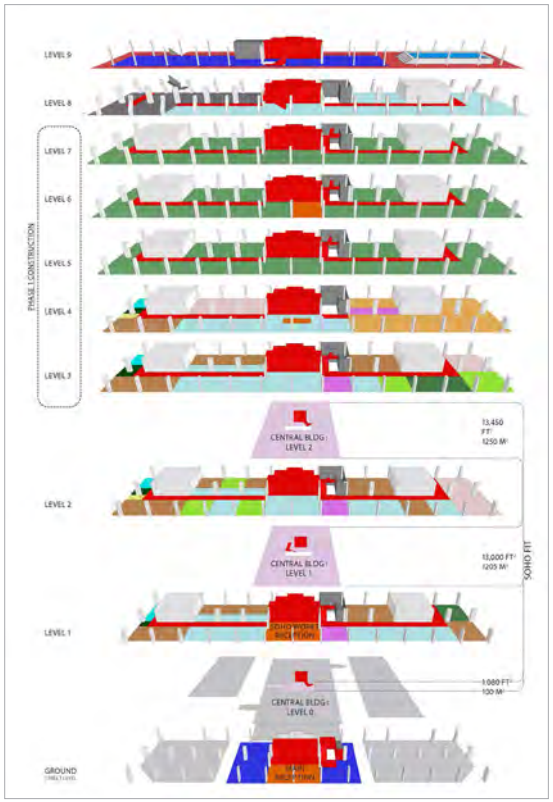
The Surrey street wing has been almost completed and occupied. David Chipperfield Architects, a large international architectural practice has taken two floors for their London HQ office, Charlotte Tilbury, a popular cosmetic brand will take around 1,500sqm for their HQ.

Soho House, a private member's club will expand their portfolio of clubs and co-working spaces by taking several floors in the building.

Most existing businesses are continuing to operate while the works are being carried out, while the main exhibition space in the Central building being used for the event like London







Fashion week shows, post Brit Awards parties, Cartier Jewellery exhibition and may other exiting events.

To cope with busy life of the building, the coordination between the design and construction teams and the tenants is a paramount. CD International is working collaboratively with the architects and structural engineers to deliver a fully coordinated MEP services solution in Revit. Some of our engineers are based on site to survey and profile the existing structure in order to facilitate coordination. Various scenarios for heating, ventilation and air-conditioning were tested using thermal modelling software.

In order to provide a power supply for all the tenants and ensure that flexible configuration and extra capacity are available, our electrical team worked very hard with design teams on site to build agile electrical and IT networks and secure a supply from local utility providers.

We are coordinating installation works as a roll out programme, where several fit-out contractors are working in different part of the building.

The location allows us to travel to and from our office to the site in less than 20 minutes by bike or public transport. And if our working day got extended, well, Covent Garden has a lot of entertainment on offer. Alternatively, we can watch a sunset from Waterloo Bridge nearby.

Client: North Lincolnshire Council
Contractor: Elecomm
MEP: CD International BSE, UK

Public Sector / Office / UK

Scunthorpe/ Church Square

The project is a £5.7 million Church Square House extension in located in Scunthorpe, extension to the North Lincolnshire Council building, where 600 of the authority's staff will be based.

Client's brief

Building located in the centre of Scunthorpe on Church Square will benefit from a new three-storey extension, while the existing main building will be completely remodelled.

This will enable the council to transform the way it works based on an agile workforce delivering services designed around residents. The Council's new town centre offices are already creating construction jobs and will save local taxpayers £375,000 a year.

Council's aim is to strategically downsize to more efficient, environmentally friendly and productive premises.

Deliverables

CDI has completed the Detailed Design for mechanical, electrical and public health service. Produced in Revit® in a fully coordinated model between contractors, architects, structural engineers and the rest of the project delivery team.

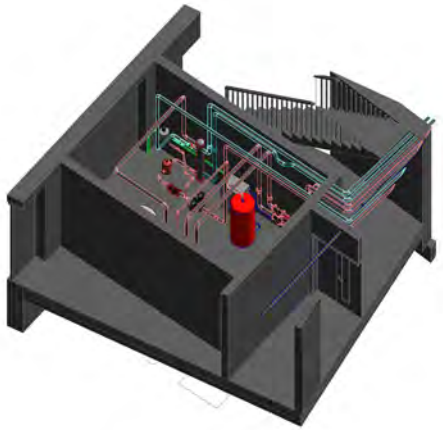
Delivering the project up to BIM Level 2, allowed us to reduce the delivery programme, eliminate clashes between services and enhance coordination between the disciplines.

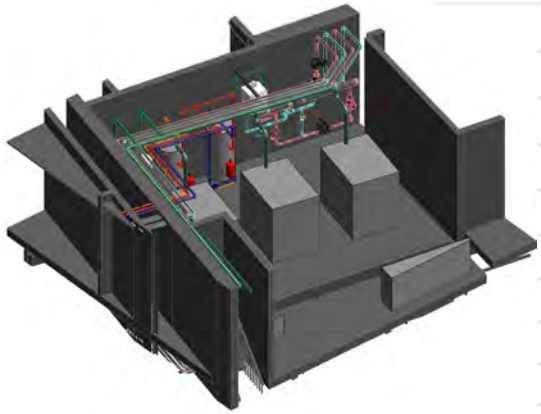
Energy Efficiency

The Council has put a strong emphasis on the sustainability and energy efficiency of the building and the design team worked together to implement those principles into design solutions, starting from building fabric, reducing energy demand. Our team incorporated maximum energy efficiency measures during building services upgrade, without compromising on comfort.

The hybrid ventilation system was designed to provide natural ventilation, secure nighttime cooling and boosted levels of ventilation during summer. The HTM FS systems installed above a suspended ceiling or within a ceiling raft, is working well together with natural ventilation provided by manual or automatic windows and Windcatchers installed on the roof.

Heating is provided via Air Source Heat Pumps controlled and monitored by the BMS system. All utilities are metered and energy and water consumption are monitored by BMS and facilities management team from the point of commissioning, to ensure that all systems are working in sync and comfortable internal environment achieved and resource use optimised.





Developer: Standard Life
Architect: Sidell Gibson Partnership
Services Design: CD International BSE, UK

Office / UK

London / Juxon House

High specification new build office accommodation of 140,000sqft in one of the most high profile sites in London, outside St Paul's Cathedral. The building must sit in harmony with its historic surroundings but must also provide a highly serviced, efficient 21st Century working environment.

Project outline

The building is designed to full institutional standards and is fully fitted out to open plan standards including lighting and cooling. The building can be let on a floor by floor basis and incorporates retail outlets at ground floor and basement levels.

Due to planning restrictions plant at roof level is prohibited and careful and detailed coordination has been carried out to ensure the most efficient use of restricted plant space.

MEP Systems outline

- Environmental Control
- Two pipe fan coil with local fresh air reheat, providing cost effective flexible solution
- Roof mounted chillers with dedicated condenser water circuit to ground floor retail.
- Standby generation.
- Capacity for dealer occupancy across levels
- Integrated BMS system.
- Engineered smoke control system.
- High efficiency lighting system.

Design: RTKL
Developer: ENKA

Office Development / Russia

Moscow / Naberezhnaya Tower

Concept Design for building services systems for buisiness complex located in Moscow City.

Project Outline

Concept design for two 24-storey office towers in the business district of Moscow. In addition, company's directors were commissioned to undertake scheme design for a further 50 storey tower which will complete the office complex.

The scheme established the Cat A servicing strategy utilising Western standards with vertical risers having additional capacity for increased tenant loads.

Technical Overview

- 6 No. water cooled chiller
- Cooling capacity
- Fresh air volumes 80m3/s
- 6 No. ventilation AHU
- On floor fan coil units

Design: Mountford Pigott.
Services Design: CD International BSE, UK

Office / Ukraine

Ukraine / Office on Andreevsky

A new build office development in the heart of the historic region of Kiev to provide flexible office floor areas that can be easily divisible

Project outline

The development is located on a steep gradient which results in a tiered development across the site. The overall development comprises of 40,000m2 office, 10,000m2 car parking and 5,000m2 retail.

The building massing on the site results on a range of storey levels from 8 to 14. The development is based on enclosed courtyards with a number of access points into each office courtyard.

MEP Systems outline

The development is based on a previous industrial factory site and the electrical loads need to be enhanced to accommodate the increased built area. The electrical load is 3.6MW but this load may be reduced should the cooling for the building be generated by ice storage.

The office areas are being provided with 4 pipe fan coil air conditioning with the majority of the plant located in the basement. The office area will be served from a number of main risers which facilitate the floors being sub-divided.

Client: Bourne Leisure Limited
MEP: CD International BSE, UK

Office / UK

Hemel Hempstead/ One Park Lane

No 1 Park Lane is situated in the heart of Hemel Hempstead, just north east of the town's well known "Magic Roundabout".At 96,135 sq ft the building is one of the largest in the town. It has an enviable position within the town centre and offers tenants and their employees excellent access to the town centre retail offerings.

Project outline

A maintenance and renewable energy project for a headquarters leisure companies offices. The maintenance comprised of a preparing planned schedules for all mechanical electrical and public health services with the over view of the works by the contractor.

The provision of a second standby generator to support the data rooms should the primary generator fail to start with additional UPS systems to ensure a secure supply to the data rooms in a mains failure. The existing plant was audited and a sequence replacement was scheduled to provide energy systems to include solar panels for the hot water and watermisers to the toilets.

Client: MEP Consulting
Energy Assessor: CD International BSE, UK

Office / UK

London / Tankerton Works

This standalone building located on Argyle street, a small pedestrian passage approximately 200 metres from Euston Road and less than 2 minutes to the principal thoroughfares and trading areas of King's Cross and its excellent transport infrastructure.

Project outline

The former factory building that was restored and converted into offices in 2006.

Currently, building is heated via portable electric heaters that consume a lot of energy and do not provide comfortable environment.

CDI proposed to install three-pipe variable refrigerant system (VRF) for heating and cooling, which provides economically precise, individual comfort control to multiple spaces. System operate with minimum energy usage and low maintenance cost, as service required to the zones that need it, which allows for less required maintenance.

Cooling for server rooms and electrical installations will be upgraded to the modern standards. In addition, ventilation will be provided to the basement units and heat recovery to be installed.

Architect: Chapman Taylor
MEP: CD International BSE, UK

Office / Russia

Moscow/ Milyutinsky Centre

Concept design for office block, located in the historical centre of Moscow – Milyutinsky side-street.

Project outline

The project will consist of 8,000m^2 GBA of office building on 5 levels with 2 levels of car parking with 100 parking spaces with car wash bay.

On ground level there will be restaurant and main lobby and terrace located on the top level. Careful consideration of plant room and risers location required in order to save prime office and car park space.

Design: Chapman Taylor Ukraine
MEP: CD International

Office Development / Ukraine

Kiev / Omnia office centre

Detailed Design Project of 14-storey office building, located in the centre of Kiev. .

Project Outline

Modern Class A office building, predominantly clad in glazed curtain walling with approximately 10,000 lettable office area and one level underground car park. CD International was commissioned to undertake Building Services Design up to Tender Stage, working together with our local partner.

CDI International Building Services Engineers

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