

Buildings and Data Processing Centres

Energy reliability, availability and efficiency solutions



Needs which are clearly understood

In many buildings, the availability of reliable electrical energy is absolutely essential for economic and security reasons. This requirement is now coupled with the need

to improve the energy efficiency of buildings in order to achieve sustainable management of installations.



SITE 131 A

Service sector (high rise buildings, public buildings...)

Reliability and availability

Availability is a key economic issue for companies which use critical applications. As an example, a one hour breakdown can, in the case of a banking institution, lead to significant financial loss.

In the case of high-rise buildings, personal safety requires the use of secure power supplies adapted to the constraints of buildings of this height.

Energy efficiency

As part of a global movement for the conservation of the environment, many countries have set objectives, with a deadline of 2020, to reduce greenhouse gases and energy consumption by 20%. To support this regulatory process, performance labels to qualify the sites have been implemented.

Those managing buildings used by the public are now required to optimise energy consumption. This is going to be achieved by the capacity to measure, then act to consume less... or more efficiently.



SITE 486 A

Retail & leisure sector (commercial center, hotel...)

Reliability and availability

Commercial buildings, in addition to their security constraints, require continuity of operation for functions such as: chillers, IT systems, lighting, payment systems...

These buildings require high-availability power solutions.

Energy efficiency

The energy consumption of the various lease holders is specifically monitored as it is charged back to them by the owner of the building.

Due of this, owners and lease holders are very interested in improving the energy efficiency of existing as well as developing new energy efficient buildings.



SITE 374 A

IT sector (data center, media, telecom...)

Reliability and availability

In data processing centres, electrical energy is particularly critical.

To ensure continuous operation without interruption ⁽¹⁾, it is essential to prevent all power faults and put in place systems capable of providing a continuous supply of electrical energy

Energy efficiency

Servers, cables, fans... The majority of technical equipment in data processing centres dissipate heat energy which results in an increase in the ambient temperature.

In order to reduce air conditioning requirements, many building managers are now opting to use highly efficient technology, particularly in terms of uninterruptible power systems.

(1) The TIER classification defines the availability factor of the data processing centre. The Power Usage Effectiveness (PUE) enables the energy efficiency of a data processing centre to be measured. It is calculated by dividing the total energy consumed by the data processing centre by the total energy used by the IT equipment (server, storage, network).

... by a **real specialist** of your energy...

SOCOMEC is an independent industrial group, specialising in the availability, control and safety of low voltage electrical energy for industry and the service sector. With more than 2,300 staff in 17 subsidiaries worldwide, our company has complete control over the design, manufacture and sales of its products.

SOCOMEC solutions are recognised as being the most innovative and comprehensive on the market, meeting the most demanding requirements and applications.



... who **accompanies** your success.



Audits, consultancy, assistance with commissioning. The experts at SOCOMEC can support you in improving your energy efficiency, and with many other processes.

When putting these solutions into practice, the inter-connections between the various links in a power system may bring to light technical domains which are sometimes difficult to understand. The multi-skilled expertise in SOCOMEC's Services & Technical Assistance Department guarantees you optimum implementation and use of the proposed solutions.

Commissioning

Installation of your equipment is carried out by a specialist, and is totally compatible with and adapted to your use.

Tailor-made services

A broad range of features tailored to respond to the particular requirements and limitations of your electrical installation, and to help you deal with specific operational demands.

Training

Tailored to your needs, a training programme enables you to fully exploit the functionalities offered by our solutions. This means you can gain every advantage from your application.

Maintenance contracts

Ensuring continuity of service on your electrical networks is the main objective of our preventative and curative services tailored to your installation and its environment.

For an energy supply which is **always**



Power supply redundancy with ATyS and ATyS M automatic transfer switch

Essential for ensuring the security of the electrical energy supply in critical sectors, source inverters **automatically switch** to a generating set or another network in the event of the loss of the main power circuit (normal/emergency switching).

Due their high specifications, the **ATyS** and **ATyS M** ranges are the **undoubted market leaders** in source switching:

- Compliance with IEC or NF EN 60947-6-1 standards
- Safety disconnection
- Manual emergency operation
- Test on/off load
- Remote interfaces
- Version with dedicated enclosure
- By-pass function



Service continuity and high efficiency with the *Green Power* and *EMergency* uninterruptible power system

The SOCOMEC **Green Power** uninterrupted power system range has **96% efficiency**, as certified by the independent body TÜV.

In addition to this energy performance, the Energy Saver function enables parallel operation, preventing needless energy consumption. With this in mind, the uninterruptible power systems which are not required for power are put on standby while maintaining redundancy.

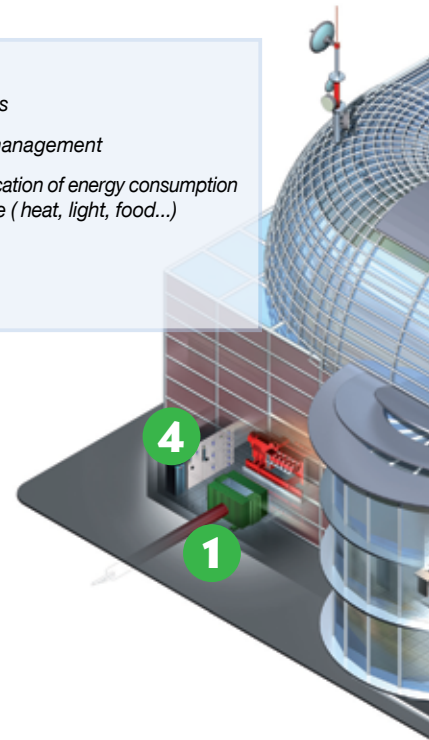
SOCOMECS UPS was one of the first UPS manufacturers to sign the "Code of Conduct" established by the European Commission relating to the commitment to comply with the minimum energy efficiency limits and, in particular, the minimum efficiency levels.



reliable and available...

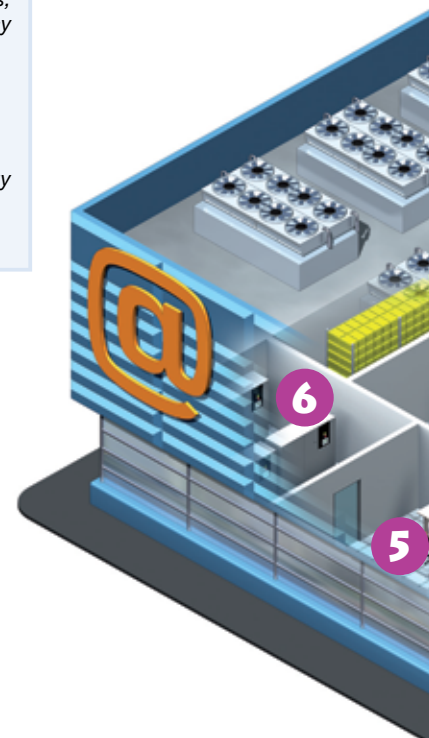
RETAIL & LEISURE SECTOR (commercial center, hotel...)

- 1 Redundancy of the power circuit with automatic normal-emergency switching for safety circuits and critical equipment
- 2 Highly-efficient UPS's for emergency circuits
- 3 Protection of safety circuits (sprinklers, smoke extraction, alarms, emergency lighting, lifts, cold store...)
- 4 Power quality analysis
- 5 Centralised energy management
- 6 Measurement and allocation of energy consumption by outlet and by usage (heat, light, food...)

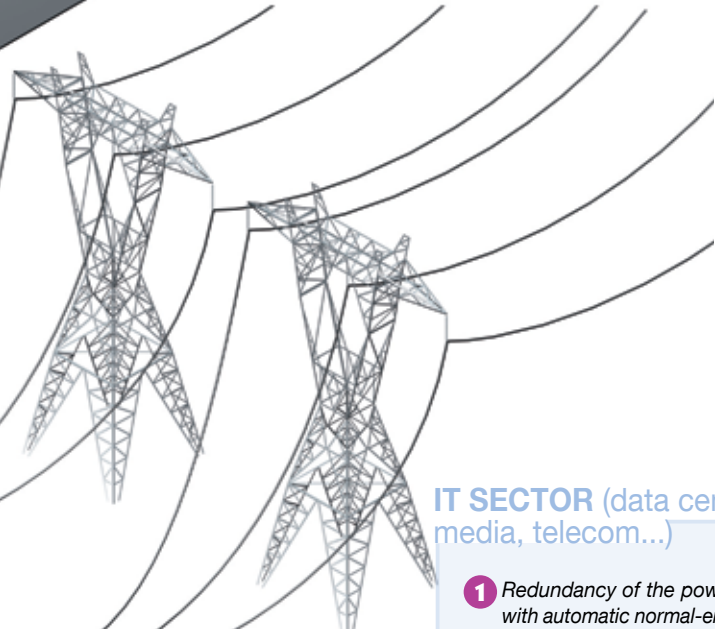
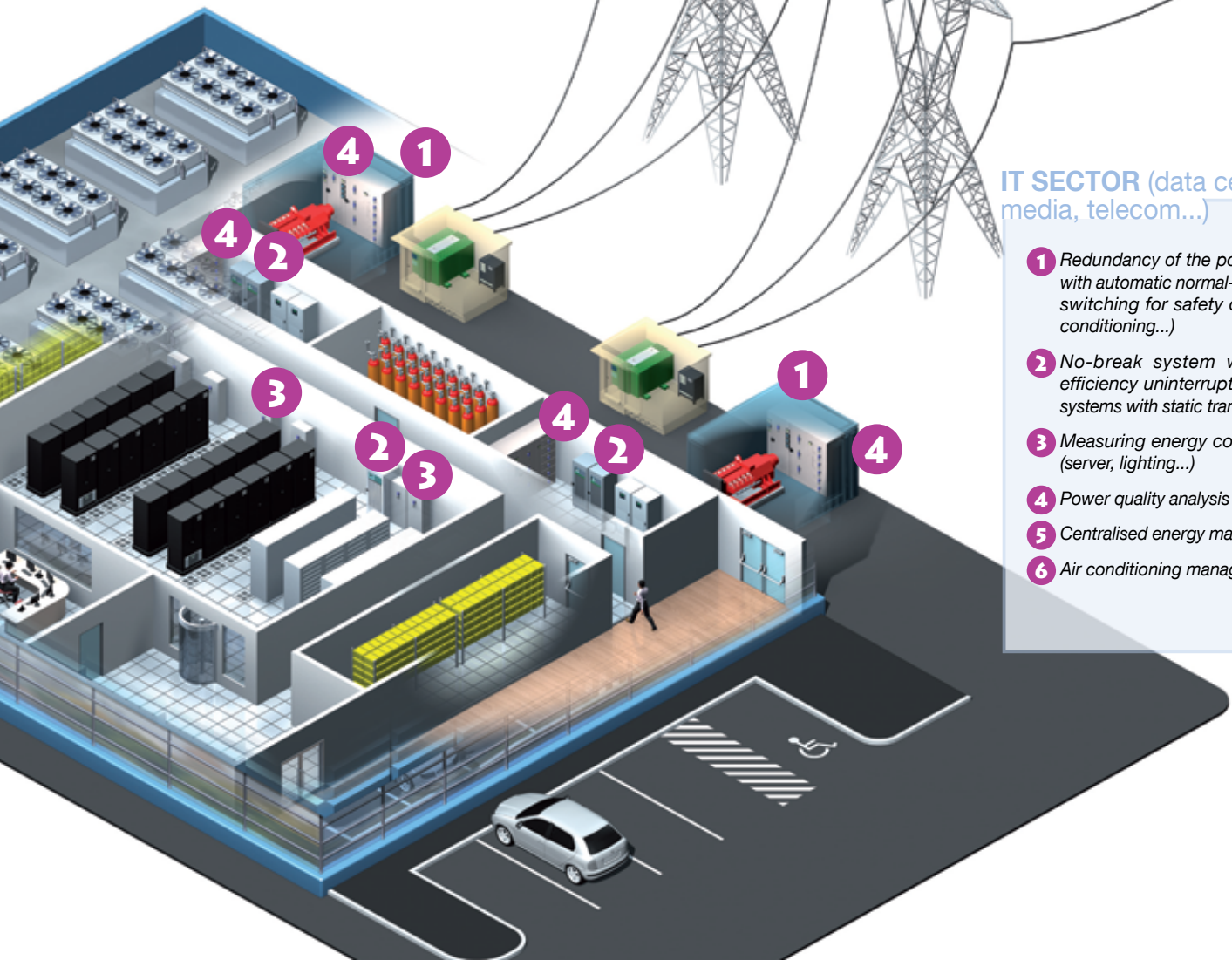
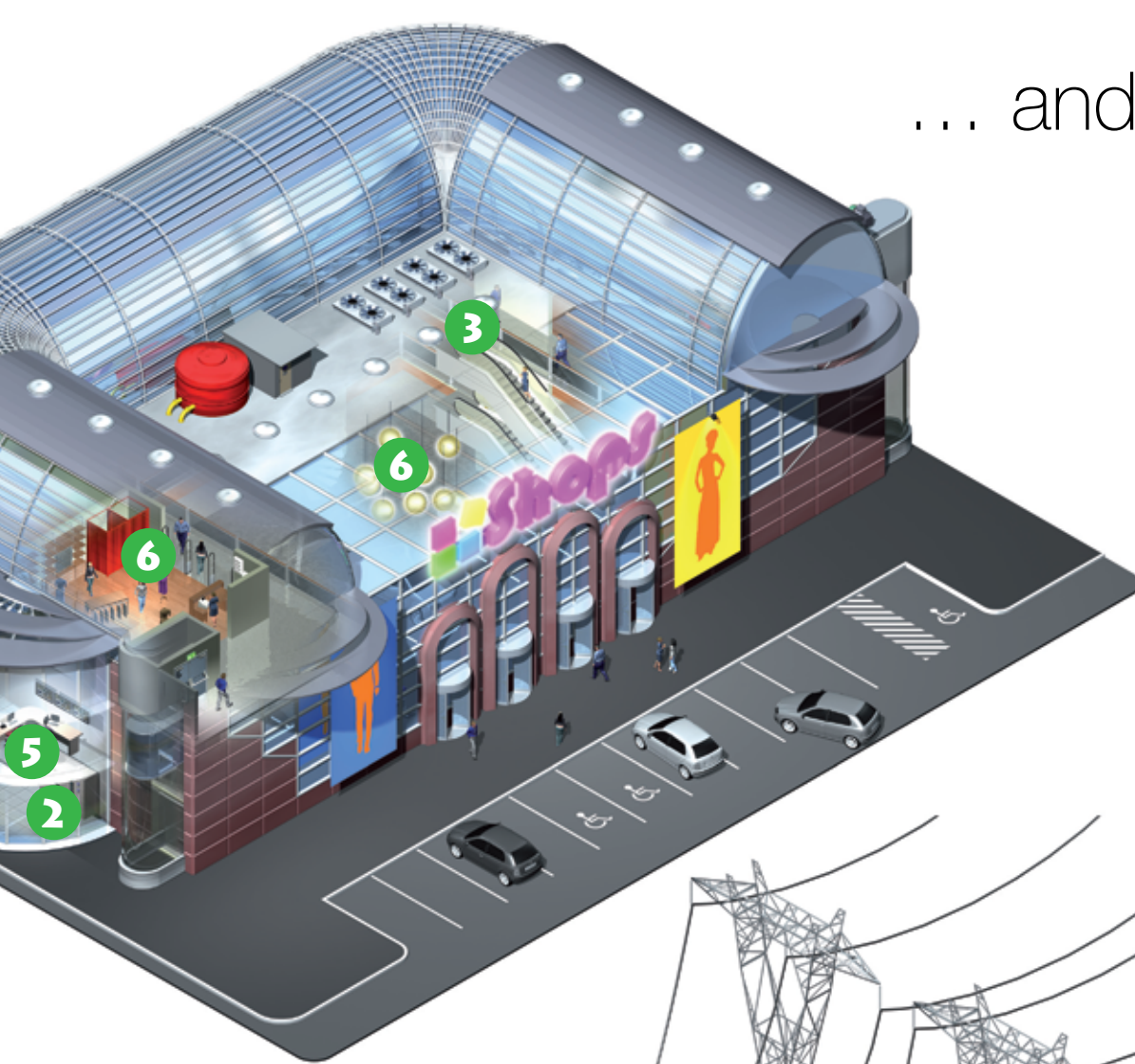


SERVICE SECTOR (high rise buildings, public buildings...)

- 1 Redundancy of the power circuit with automatic normal-emergency switching for safety circuits
- 2 Highly-efficient UPS's for emergency circuits
- 3 Protection of safety circuits (sprinklers, smoke extraction, alarms, emergency lighting, lifts, cold store...)
- 4 Power quality analysis
- 5 Centralised energy management
- 6 Measurement and allocation of energy consumption by floor and by usage



... and mastered



IT SECTOR (data center, media, telecom...)

- 1** Redundancy of the power circuit with automatic normal-emergency switching for safety circuits (air conditioning...)
- 2** No-break system with high-efficiency uninterruptible power systems with static transfer.
- 3** Measuring energy consumption (server, lighting...)
- 4** Power quality analysis
- 5** Centralised energy management
- 6** Air conditioning management



APPLI 1385 A

At the heart of the process: energy measurement, management and analysis

In service sector buildings, controlling the heating, ventilation, air conditioning and lighting, installing a Building Management System (BMS) and correcting the power factor can help **reduce energy consumption by up to 30%**.

In fact, energy measurement and management systems are at the very heart of the process for improving energy efficiency. For those managing the building, the most important thing is the knowledge of consumption, as dependent on three criteria: the **geographical location**, the **usage** (ventilation, lighting...) and the **type of energy**. This is why it is important to choose the best overall solution for your particular application.



SITE 476 A

For each stage: Dedicated and communicating solutions

The new **DIRIS** and **COUNTIS** ranges constitute a **global response** by SOCOMEC to the needs of installers, integrators and users in industry and the service sector. All these elements inter-connect easily to enable the exchange and processing of available data and

ensure **efficient supervision of the system**. They comply with the new IEC standard 61557-12 relating to PMDs (Performance measuring & monitoring device).

Measurement

COUNTIS E products meter electric power consumed by loads, thereby enabling control and allocation of consumption. They are MID certified and communicate via RS485.

Management

Beside metering functions, the new **DIRIS A** multi-function measuring stations monitor and optimise networks by alarm management, monitoring distribution parameters and the remote control of electrical devices. They communicate via Ethernet and have temperature modules.

Analysis

Also covering the metering and counting functions, the **DIRIS N** analyses the quality of the energy supplied in compliance with the criteria defined by standard EN 50160 and provides a detailed analysis of 'pollution' (harmonic, inter-harmonic, transient, flicker effect...).

Communication

CONTROL VISION software enables all measured electrical values to be displayed and the consumption of the various stations of a building or a data processing centre, for example, to be recorded. The user can also create logs of electrical values over a chosen period and adjust the configuration of each device installed. The standard communication protocol used facilitates the deployment over time of products on the distribution network.



COUNTIS E range

GAMME 117 B



DIRIS A range

GAMME 132 A



DIRIS N range

GAMME 124 A

They put their trust in us

Belgium

Fortis Bank Brussel - Fortis AG - KBC bank Leuven - RTL-TV1 - Versatel brussels - Mobistar - ING bank - Dexia - NRB - Colt Telecom - Siemens - Nouvelle Chine presse - Trace Charleroi - Assurances Atelia - Electrabel Namur - Cofidis - IBM

China

Huawei China - China Mobile Customer Service Center - Tianjin Fax Center - Bank of China (Jiangxi) - Beijing Financial Politics Bureau - Hangzhou Labor Security Information Center - Petrol Resources Equipment - China Petrol Natural Gas-Beijing Commande Center - CNC - People's Bank of China - Shanghai Airplane Design Research Institute - Center of Meteorology of the army - Yiguang Electronics Co. - Mobile Telecom of Shanghai - Fujian and Hebei Telecom - China Pavilion

Dubai

Mirdiff City Center - Al Shaffar Building - Dubai palm Jumeirah - Al Rashidia School - Dubai Metro - Burj Khalifa

France

Nosica (Casino Group) - France Telecom It Center - Equinix - Global Switch IBM Clichy - Themis IBM - CNP It Center - Bull Trelaze - It Center DCN Lorient - Wanadoo (Alapage) - Maaf Insurance - Cs Systemes d'information - IBM France - Tour Cristal - Université de Caen - Thales - Tour Exaltis - LD Com

Germany

Call Center Magdeburg - Data Center City Group - Colocenter SAP - Otto versand - RheinEnergie - Zentrales Finanzamt - Nürnberg - Deutsches Rotes Kreuz - Equinix - Cortal Consors ComDirekt Bank - Stuttgart Stadium

India

Cisco Project In Bangalore - Sify Ltd, Bangalore - Oracle India (Bangalore) - Logica Cmg - Cts Gmr - Infinite Computer Solutions - Infinite India - Global Symphony Software - I2 Technologies - Bfl Software, Bangalore - Velankanni Software (Bangalore) - Sage Design Systems - Sobha Renaissance Information - Axa Business Services - Sasken Communication Technologies - Heartland Information Services - Makino Asia Pte Ltd - Indi

Iran

IBM

Italy

Aeroporto G.Marconi di Bologna - AGB Nielsen Media Research Amway Italia - Antibo '95 - Assicurazioni generali - Autostrada del Brennero - Banco di Roma - Banca Intesa - Belfe - Bisazza - Calzedonia - Colussi - Costa Container Lines - Diesel - Direct Line Insurance - Elefante TV - F.I.A.M.M. - Fidia - Franke - Istituto Nazionale di Fisica Nucleare (INFN) - Marchiol - Marzotto - Marelli Motori - My Way Airlines - Polti - Safilo - S. Pellegrino - Solvay Bario e Derivati - Vimar - Stadio Olimpico di Torino

Latvia

Izzi

Luxembourg

HVB Bank - Nomura bank

Malaysia

AmMerchant Bank Bhd - British America Tobacco (M) Bhd - Paracorp Data Centre - RHB Training Centre - Data Centre Multi-Purpose Insurans Bhd - Lafarge Asia Data Centre - UiTM, Puncak Perdana - Tan Chong Data Centre - DBKL Digital Library - Sports Toto (M) Sdn - Menara Prime - NCR Call Centre - SRG Asia Pacific Data Centre - Shell IT International Data Centre - Petronas Tower - The Residence At Greenbelt

Nederlands

Versatel Amsterdam - Rabobank - Evo (Switch Amsterdam)

Poland

Fortis bank Data Center (Warsaw) - Polish Post data center (Bydgoszcz) - Geant hypermarket data center in Warsaw - Tesco data center in Krakow - an Institute Of Science - I-Gate Global Solutions

Portugal

IBM data center

Russia

Data Center "Pulkovo"(aviation) - Infobox - Sberbank

Singapore

Starhub - IBM Singapore - Alliance Securities - ABN Bank Singapour - Merrill Lynch Singapour - RABO Bank Singapour - IBM - Storage System - Singapore Telecom - Singapore Telecom/ Failsafe - Royal Bank of Canada - Fortis bank - HSBC - RHB BANK - Singapore Telecom, Telepark - Dow Jones - Hypovereinbank - National Library - UBS - StarHub Pte Ltd - Government Investment - PSA - Merrill Lynch - Singapore Press Holding - I-Cap Management - DBS Vicker - NTU - Singtel - ABN - AMRO Bangkok

Spain

Seat - Caixa Tarragona - Ajuntament Barcelona - IBM Spain - UBS - Sistemas 4b - Universitat Pompeu Fabra - Inforsistem - Gedas

Sweden

Stockholm Data Center

Taiwan

Seednet - Internet Data Center - National Taiwan University

Thailand

Central ChaengWattana - Central Chonburi - Big C - Siam Paragon

United Kingdom

Devonport Naval Docks, Plymouth - Cisco - Green Park - EDS Data Centre - Hewlett Packard - Centrica Data Centre - Stockholm Data Centre - London Data Centre - The New Meteorological Office Data Centre - Egg Bank Data Centre - Royal Bank of Scotland (World HQ) - Runcom Data Center - Crown Building - Marks & Spencer - Walmart -Westfield - Vodafone - Wembley Stadium - UBS - Virgin Media

HEAD OFFICE

SOCOMECC GROUP

S.A. SOCOMECC capital 11 313 400 €

R.C.S. Strasbourg B 548 500 149

B.P. 60010 - 1, rue de Westhouse - F-67235 Benfeld Cedex

Tel. 03 88 57 41 41 - Fax 03 88 57 78 78

marketing-scp@socomec.com

www.socomec.com

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