

*Strategic Systems Solutions*

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# **Turnkey Space Solutions**

## **Capability and Case Study**





## Turnkey Space Provision

**Project Type:** Infrastructure Provision

**Industry:** All

**Applications:** Office / Data Centre

**Implementation Type:** Strategy Tier 1

### The Situation

Our Clients often find themselves requiring expansion, risk mitigation or consolidation of their own location strategies. With no prior experience in this field the key problems faced are:

- Uncertainty of feasibility or potential
- Little or no understanding of true costs
- Legislative issues to overcome
- Health and Safety issues
- Business imperatives driving Timescales & deadlines
- Management of many 3<sup>rd</sup> party providers
- Logistics of relocation

### Challenge – Knowing the business imperative

The business challenge to overcome may well be simplistic:

- Move from a major metropolis to less costly location, less of a terrorist target
- Create a global network hub
- Open a new office in a new country

Any client looking to employ a provider for their critical location requirements would want complete confidence in the provider's ability and experience to deliver the end result with the minimum of fuss and supervision. The client would want the provider to handle and co-ordinate all aspects of the project with the overall goal being a smooth blend of services that provide a totally integrated package. All disciplines planned with each other in mind so that a seamless result is achieved in a safe and ordered manner. You would also want the installer to be of a good reputation, who also provided good value for money.

You would want to use friendly people, flexible in their approach and always responsive.

SSS offers the full service from design concept to final commissioning and ongoing maintenance and support. We recognise that each clients requirements are different and only a specialised, but flexible approach will deliver the right solution every time.

SSS takes a coherent approach – each discipline is planned with all the others in mind. This results in a seamless solution arrived at in a safe and ordered manner. An outstanding reputation for quality; a clear focus on value-for-money; friendly, expert people; and a fast, flexible and responsive service.

SSS is able to Analyze these one line requirements and distil a full programme to enable a timely, cost effective and best value approach to suite each clients own specific and individual requirements.



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## The Service Provision

Clients turn to SSS to enable their vision.

SSS has partnered with Denco Datacentre Ltd a subsidiary of Denco Ltd, this special relationship between SSS and Denco Datacentre Ltd developed over many years of co-operation and working together on numerous projects has created a close and intelligent combination perfectly equipped to deliver the best value and most appropriate solutions to our clients.

SSS' project management skills, global experience and one-stop shop application allows the end user ultimate flexibility through one point of contact. SSS is uniquely placed to provide pragmatic, real world solutions based on actual implementation experience of global village augmentation.

From initial identification of the challenges, whether planning cost effective and scalable location strategies, designing enterprise scale disaster / data recovery policy, planning and implementing general office fit-out or full computer room / data center build, SSS offers the complete turnkey solution including:

- Full Project Management
- DR Policy design
- Data Recovery infrastructure Design
- Enterprise Infrastructure design, build, location
- Office and Network Move
- Data Migration
- Site locating
- Site Assessment & survey
- Lease / Purchase Negotiation
- Site Design, Draughting and Costing
- Interior planning and design service
- Building Control and Regulations
- Purchasing
- Construction
- Suspended ceilings / Partitioning systems
- Floor covering / Decoration / Wall covering
- Power provision
- Blinds / Furniture
- CCTV / Security
- Ongoing support and maintenance



## Case Study

### SSS' own environment builds

SSS & Denco worked in unison to design and construct a complete computer room for Strategic Systems Solutions Ltd in Liverpool. The design encompassed an existing office area, which was earmarked for the a proposed 120 sq m computer room. Work involved building surveys and liaising with the managing agents for approvals. The project comprised the following:

- New electrical main.
- Raised Modular floor
- Close control air conditioning
- Electrical power distribution.
- FM200 fire suppression system.
- Ventilation ductwork modifications.
- Card access system.
- Fire-rated partitioning.
- Fire-rated doorset.
- Test and commissioning
- CCTV Systems.
- 60kva UPS.



Strategic Systems Solutions Limited



The project was completed on time in an eight-week programme designed specifically to suit SSS Liverpool Ltd timescales. Because of the success of this project, further remote development and data centres were designed/installed across the UK, US and China in all of Strategic Systems Solutions' other premises.



## The Environment



### Access Management and Site Security

Only authorised staff should have access to your sites, so access needs to be tightly monitored and controlled. A swipe card access system provides the ideal solution. It is flexible – the system can be updated to include new personnel or changed to cancel existing privileges, and more advanced systems can be installed to also monitor specific entry and exit times, and record the identity of the room's users.

Infrared sensors and CCTV cameras can also warn of unauthorised intrusion. This warning can be relayed to a security lodge, local police, or by modem and phone number.



### Lighting and Emergency Lighting

Plan and install a lighting and emergency lighting system to illuminate your sites. This can include the statutory emergency lighting and signage for evacuation of personnel in an emergency. The main light fittings normally consist of recessed fluorescent luminaires compliant with CIBSE LG3 Category 2. The luminaries are manufactured from white polyester pre-coated aluminium to RAL9016 with 30 per cent gloss to enhance both aesthetics and light output characteristics. Aluminium diffusers are supplied for a smarter appearance. Lighting can be supplied with occupancy detectors to save energy at unmanned sites.



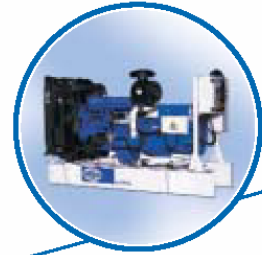
### Disaster Recovery

Today's organisations such as government business, financial and health etc are increasingly critically dependent on their ability to manage, transmit and protect data.

Any interruption to services causes grievous inconvenience, loss of income and has potentially catastrophic consequences for the long term operation reputation. For large institutions and business where the IT function is critical, reliability needs to be 100% with "zero downtime"

A single existing facility even with state of art designs and incorporating resilience with N+1 back up equipment is still no absolute guarantee against a failure or shut down because of fire, terrorism or accidental damage.

Increasingly more of our clients are totally duplicating their mission critical data centres, with the cost of replicating their facilities, easily justified against the loss of business an IT failure event would cause.



### Generator Back-up System

Diesel generators are the standard back-up to an uninterruptible power supply (UPS) when mains fail. Runtimes need to be measured in days rather than minutes. Diesel generators provide power through a direct-coupled alternator. Selecting the correct UPS with regard to the characteristics of the alternator can be critical to the success of an installation. The power factor of the UPS, and its use of harmonic filters and isolation transformers, all need to be considered. That is why it is important that the generator and UPS are designed and configured as a package rather than purchased as separate components.



### Electrical Distribution Systems with 100% Redundancy

The typical main items of equipment including generator and UPS options. Computer equipment is fed from the clean board, which has a dedicated earth. Spare ways are usually provided to accommodate future expansion. A separate non-essential board handles supplies to the air conditioning and lighting etc. Power is switched to the UPS and generator systems if there is a problem with the main utility supply. On some projects, a duplicate board has been supplied so that each item of computer architecture has two separate cable supplies. The air conditioning equipment can incorporate a soft start.

### UPS System

The UPS system provides critical back-up of the electrical supply when an outage occurs. There are two types of UPS systems – standby and continuous. A standby UPS runs the computer off the normal utility power until it detects a problem. At that point, it will turn on a power inverter, and run the computer off the UPS's battery. The normally preferred choice is a continuous UPS where the computer is always running off battery power, and the battery is continuously recharged. Continuous systems provide clean, stable power, and guard against voltage surges and spikes, voltage sags, and frequency differences

### Fire Detection and Fire Suppression

Dedicated automatic fire detection and alarm systems are provided to L1 and P1 standard to cover the whole environment in accordance with the requirements of BS5839. Ionisation and optical detectors are strategically located in the rooms, ceiling void, and floor void to provide basic three-zone coverage. Remote indicators show the status of the ceiling void and floor void detectors. Manual alarm break glasses and a gas release switch are fitted. A fire panel can be linked to the main house alarm system, or alarms can be relayed to a remote location.

### The Room Structure and Access Floor

Design and demise room fit-out, whether new or reconfigured. New builds or existing area upgrades can be built or dry lined to half- or one-hour fire resistance. Products used will have current Class 'O' BS476 performance classifications, and are tested to the Euro Class 'A' to 'F' system. A raised modular access flooring system is now an integral part of most sites because it makes the installation of electrical and communication cables easier, and provides the basic air distribution plenum.

Design and commission the air distribution system to achieve the optimum cooling profile.

## Denco

Denco has an annual turnover in the region of £35 million and employs over 500 people. It has an innovative, high quality range of products, including [air conditioning](#) and [compressed air equipment](#), [centralised lubrication systems](#), [cooling water systems](#) and [liquid storage tanks](#).

With one of the most extensive spare parts and after sales services in the UK, [Denco Technical Support](#) is able to offer a rapid response unrivalled within the industry.

As well as being market leader in the United Kingdom, Denco is very active in the Middle East, the Americas, Australasia and Asia Pacific countries. To support these export markets there is a comprehensive network of agents and distributors in many countries worldwide.

Since Denco's formation in the 1940's, the importance of its customer service has been paramount. The company's commitment to product development ensures that it is able to provide high quality products on a competitive basis to suit its customers' needs.