ORION
ENGINEERING GROUP

Orion Building Solutions

Introduction

ORION ENGINEERING GROUP (OEG) is an ICT Consultancy and Contracting Company providing integrated campus and in-building solutions based on Fibre Optic Communication Unified Solutions catering for various industrial sectors.

The company is a privately owned Limited Liability Company established in 1994. ORION ENGINEERING GROUP's offices are located in Libya, Oman and Malta. The vast experience of our company in the Northern African Market serves as a catalyst to increase our clients and partnerships. Orion therefore owns a great technical and market knowledge which is being updated regularly.

The strong combination of experience and knowledge which the company can boast of will guarantee that your project will be carried out efficiently and in a timely manner. Furthermore, the rich mix of professionals from our executive and associate portfolio will guarantee top notch consultancy, services and projects.

ORION ENGINEERING GROUP is committed to provide integrated and unified infrastructure engineering solutions using the highest standards at a reduced timescale and cost. The majority of our personnel are qualified engineers or technologists and all our partners operate on ISO 9001 or are of an equivalent accreditation.

Strength of Partnership

Our strategic alliances with global technology leaders enable us to realize our involvement in solutions and empower our organization and clients to achieve the most advanced technical solutions available in the market.

Since the need for Information Technology and unified solutions has intensified, the industry has been continuously exposed to technological innovations. This has particularly induced a constant pattern of growth within our company.

The potential from these innovations has been recognized by pioneering organizations at par with OEG who have adapted and led the way, riding on the crest of technological revolution to further enhance the growth of the industry through strategic alliances fused with unique and creative methodologies.

Accomplish your Goal

Modern day real-estate development is being driven by market trends – a growing population demanding more personalized services, building owners looking to unlock new revenues and government agencies further regulating efficient utility usage. OEG blends technology – infrastructure, data and voice – with building management systems to create a building that is simultaneously safer and more productive for its occupants and more operationally efficient for its owners.

OEG is one of the region's leading building service integrators with a strong pedigree and respected leadership position. The company, as both system integrator and business solution provider, possesses a highly skilled and professional workforce with many years of combined experience. Working with both SMB's and Enterprise Customers, the main focus is on understanding customer's business environments and delivering value.

Property developers planning for a single converged network would eliminate the installation cost associated with multiple, independent infrastructures for building management systems. These buildings can then be brought to market more quickly and at lower overall costs. OEG specializes in designing flexible infrastructures that enable the convergence of conventional data network services with building management systems

Studies indicate that over 75% of the overall lifecycle cost of a building lies in the post-construction operating cost. Orion Engineering Group real estate solution leverages the power of the network to enable centralized management and data driven decisions, leading to a more cost efficient building operating environment.

Focus™ - Fiber Optic Communication Unified Solution

Real time information systems require high speed data networks to sustain operational efficincies, provide a more responsive and agile enviroment that reduces operational risks -

DO MORE WITH FEWER RESOURCES

A concept that addresses your needs

The FOCUS (Fiber Optic Communication Unified Solutions) concept provides unprecedented benefits that provide IT and facilities managers with maximum network efficiency, immediate control over bandwidth requirements, significant cost savings, quick project turnaround times, and total control over planning and budgeting. Essentially, OEG guarantees that your network is keeping up with the exact pace of emerging technology.

What is FOCUS ?

FOCUS is a framework developed to integrate high speed data network, providing mobility, security and inter-operability of IP convergence devices managed and operated on a single Fiber Optic Communication Unified System. The system exceeds by far today's expectations and sets future standards in terms of data speed, Quality of Service and manageability of the whole airport ICT infrastructure.
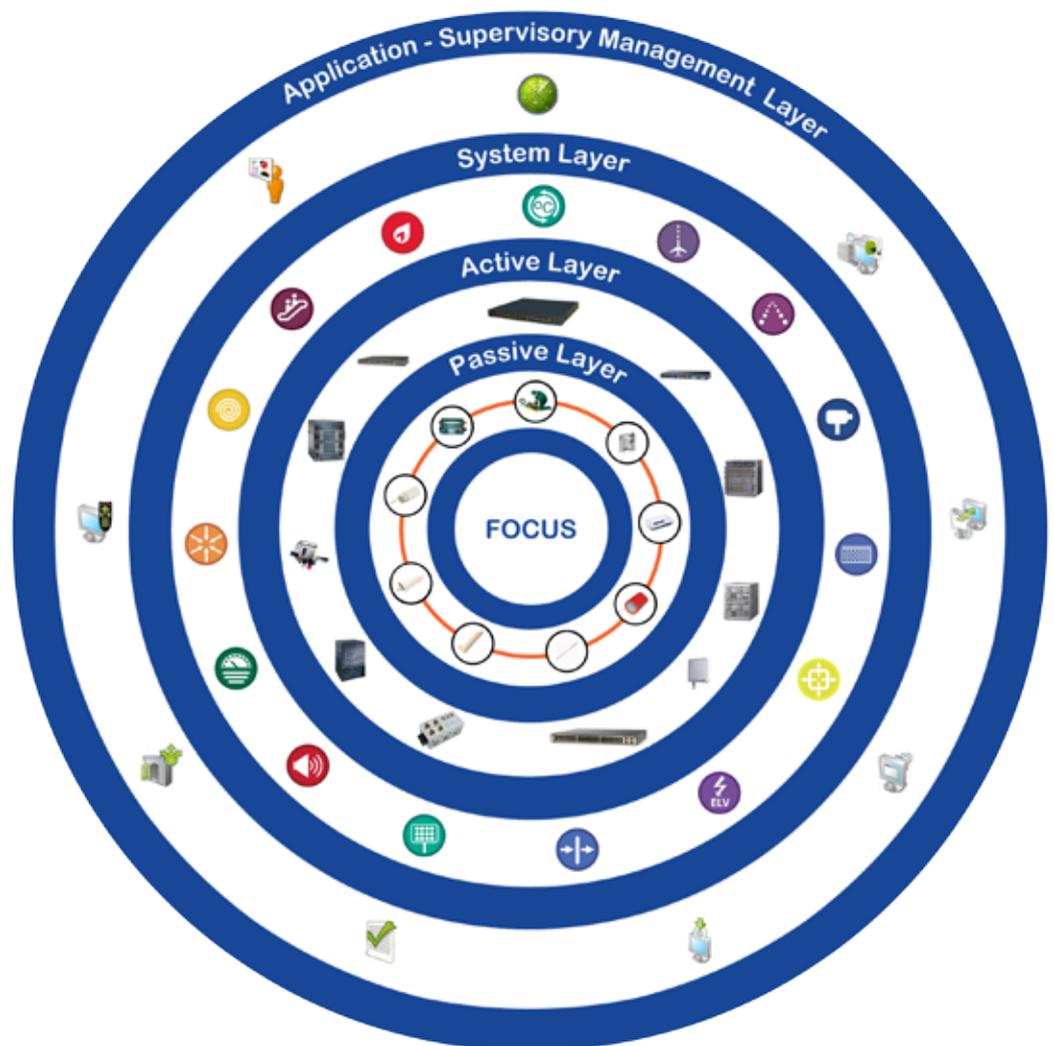
The 4 Layer Framework approach

- Passive Layer is the redundant Fiber Optic Infrastructure, based on Fibre Flow air blown technology provided to present the latest future proof fiber optics technology available on the market ;
- Active layer comprises a selected design of Core, Edge and Industrial ethernet switches utilized to sustain high speed data traffic, redundancy and security required in airports today ;
- System Layer is the integration by design of devices adopted to integrate all systems, such as Information Communication and Entertainment (ICE) and Integrated Business Management System (IBMS);
- Application and Supervisory Management Layer is the application suite that monitors and manages intelligently the network. The IBMS provides integrated framework for all systems and is a consistent data source for the efficient running of the SMART airport.

An integrated approach is the key

The system is made up of a combination of devices based on IP Ethernet, which are seamlessly integrated on a Unified Redundant Fiber Optic infrastructure. All the traffic generated by these devices is easily fulfilled and Quality of Service is safeguarded.The Network Administration Management Suite will monitor the performance and manage the system and ensures that the user experience is not degraded.

Future Proof Technology

The combination of flexibility and future proof technology not only supports the network requirements of the diverse community of airport users but can also generate additional revenue for the airport. Many airport operators have already identified for themselves the value of a well-constructed network infrastructure as an investment in future competitiveness and autonomy.

FOCUS™ is your solution

Passive Layer Benefits

- Meet your bandwith requirements in minutes
- Future proof concept " fiber on demand "
- Increase reliability
- Easy to maintain
- Optimized network security
- Save 70% for first fix and mechanical construction

Active Layer Benefits

- High bandwith per user or device
- Fully redundant with fallback capability
- No distance limitations
- Energy efficient - no cooling required
- No proprietary protocols or devices
- Scalable Modular Solution

System Layer Benefits

- Single Infrastructure serving all systems
- Fully integrated system
- Less resources required to maintain
- Risk reduction with system modifications
- Improve compliance
- Scalable for new technologies

Application and Management Layer Benefits

- Full network management without any limitations
- One management integrated platform
- Real time data reporting
- Easy-to-use web based user interface

Overall Benefits

- Cost effective solution-guaranteed short RoI
- Reduce CapeX and oPeX
- Open system architecture
- Ease of upgradability
- Meets stringent airport security rules
- Positive impact on LEED credits
- Revenue Generation by selling of auxiliary services

Building Solutions

Orion Building Solutions install and maintain the systems that help keep customer workplaces safe, secure, comfortable and energy-efficient. This includes providing expertise and solutions to keep the different components of your building automation, security and life safety, and energy management systems running smoothly and cost effectively. (OEG) has more than 15 years experience in building solutions and optimizing facilities.

What can Orion Building solutions do for you?

Whether you're in the business of property development or facilities management, a common challenge is how to keep your building running smoothly, effectively, or cost-efficiently. New technology can give your systems optimal usage but complementing that with the expertise of people who can plan, implement or maintain those systems can really give your business a strong, competitive edge.

Our services range from Infrastructure Communication Entertainment & Security (ICES)

- Integrated Building Management System
- Energy Management
- Security Solutions
- Fire and Life Safety
- Building Services
- Unified ICT Infrastructure
- Single Master Antenna TV System (SMATV)
- IPTV Systems
- VOIP and Telephony Systems
- Internet Infrastructure
- Data / Communication Room Infrastructure
- HVAC & SCADA control systems
- Intelligent Lighting
- Automated Water Irrigation Systems

Building Solutions

OEG has a long history of delivering quality products and services to our customers in the region. Our experience and expertise provide you with the industry expertise you need to optimize your systems, including:

- Project Management and Implementation
- System Installation
- Third-party System Integration
- Commissioning
- Retrofit and Maintenance
- Lifecycle Costing
- Guaranteed Performance and Outcomes
- Design Services

OEG has Strategic cooperation with Honeywell Building Solutions, a global leader in providing product and service solutions that improve efficiency and profitability, support regulatory compliance, and maintain safe, comfortable environments in homes, buildings and industry.

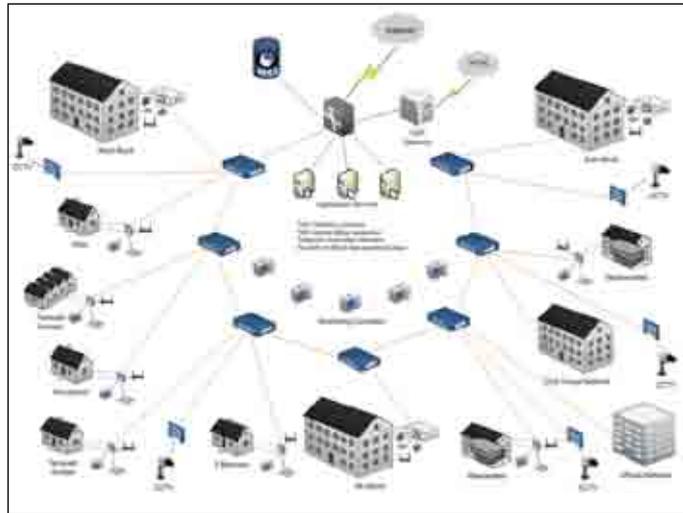# Fiber Optic Communication Unified Communication Infrastructure Concept

OEG unites all key communication network functions onto a simplified, flexible, and scalable IP network that forms the fabric of every Building. The network runs on an intelligent Ethernet Unified Communication Infrastructure (UCI) system utilising fibre optics based on the FTTX Concept that allows to prioritising intelligently real time communications.

Through this High Speed Network, buildings can deliver Triple play solutions for IP telephony, IPTV video, Video On Demand and Wireless Mobility. The UCI streamlines architecture, reduces capital and operating costs, as well as opening up new revenue making service opportunities for the hospitality business.
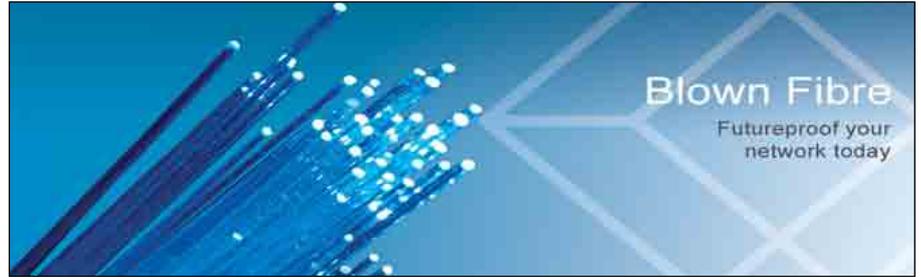
Integrated Building Management Systems, HVAC, Safety, Security and Energy Management

OEG expertise in the market enables customers to integrate heating and cooling, access control, security monitoring, ventilation, fire and smoke control, and lighting across enterprises. This approach reduces training and maintenance costs, increases energy savings and adds value by collecting and sharing vast amounts of pertinent facility and financial data, which helps customers run buildings more profitably.

AUDIO & VIDEO SOLUTIONS

VOICE, DATA INFRASTRUTURE

BUSINESS APPLICATIONS

OEG OFFERS

WIRELESS MOBILTY

BMS & CONTROL

SAFTEY , SECURITY

Conferences, seminars and meetings represent a substantial revenue stream for the hospitality industry. ORION ENGINEERING GROUP equips meeting and conference rooms, banquet halls and ballrooms with a range of systems including audio-video, security, lighting and broadcasting to create the right environment for people to gather and conduct business.

Blown Fibre
Futureproof your network today

Blown fibre solutions provide a passive infrastructure system based on small, light-weight, extremely robust micro ducts, and comprise the world's most complete and advanced blown product range: fibres, micro ducts, bundles, sub ducts, main ducts and all related equipment and accessories.

Our tube bundles come in various diameters and are normally configured in assemblies of 1, 2, 4, 7, 12, 19 and 24. Other micro duct counts are possible. They are ideal for diverse inside and outside applications. Also included are fibre units and fibre cables optimized for air blown installation into the tube bundles: once the core infrastructure is in place – no need for expensive redundant fibre – future work can be executed simply and quickly. This allows our customers to upgrade or extend their network precisely in line with changing demands.

OEG Vertical Solutions

Enterprise Access

Originally only used in the back bone area, fibre optics is now widely seen in the office and intranet area. The integration of data, telephony and video guarantees long-term investment. The Fibre To The Home (FTTX) concept developed, enables such networks to be implemented in both a flexible and cost-effective manner.

Industrial Solutions

A departure from in-house applications has led to the IP protocol conquering new application areas. Industrial Ethernet has now become an established term that describes the use of Ethernet based components with a high degree of reliability in rough environments. The ring mechanism integrated by OEG facilitates the construction of self-healing network topologies.

Enterprise Networks

The connection between carrier and customer networks demands a high degree of flexibility regarding data transfer rates and protocols with simultaneous scalability and universal coupling of different services. The open access platform from Orion offers an efficient, future-proof solution that provides enhanced reliability and easy servicing.

Access to Metropolitan Networks

Network providers are consistently forced to expand their transport capacities in the light of rapidly growing bandwidth demand and new applications such as Video on Demand and triple play. OEG optical platforms transport package data streams across long distances with the greatest reliability. This makes it extremely cost effective both in terms of the initial costs (Capex) and the operating costs (Opex).

Hospitality

Hotels strive to create an environment that adapts to each guest's preferences, allowing them to enjoy the productivity of their office with the comforts of home. OEG's solution for the hospitality industry enables richer interaction between guests and the hotel, which subsequently improves guest loyalty, enhances profitability and promotes differentiation.

Solution Overview

Running a world-class service organisation calls for a communications backbone capable of meeting the needs of guests and employees alike. ORION ENGINEERING GROUP has the breadth and depth of portfolio to provide every component required to build a complete, converged, secure and reliable communications system. The components of the OEG solution offering are described below:

Health Care

The fast and easy safe access to information, The reliability of communication between medical systems and the optimisation of hospital plant operation and maintenance lead to high demands on the network infrastructure in Health Care.
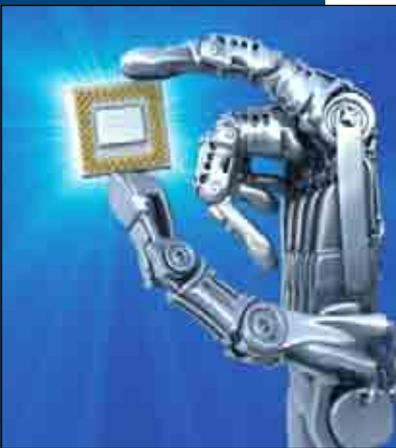
A Unified Communication Infrastructure is the basic requirement to secure reliable fault tolerance, fast access and unified monitoring and control. Through close cooperation with technology partners and experts on specifically adapted solutions, OEG provides customised solutions is the Health Care environment.

Transport and Traffic Control
Monitoring and Industrial Automation

Ever more optimised and interwoven logistics and production process will only be made available by high performance networks. Critical infrastructure requires protection and safety through monitoring.

When it comes to smooth operation, maximum reliability has the highest priority. In this respect, the self-healing ring topology coupled with the Unified Communication Infrastructure Topology provides the highest network availability with optimal network Performance.

Education
Research Public Authorities & Administration

New and innovative concepts are achieved in universities and research institutions. The Multimedia teaching and interaction between students and lecturers benefits mostly from fast Data networks on campus.

This can only be achieved by the use of Triple play solutions utilizing   Unified Communication Infrastructure Topology to ensure   rapid reaction and implementation of new technologies at the highest level. Users and administrations benefit from the greater efficiency of high performance networks based on fiber optics.

Renewable Energy & Energy Management

Orion Engineering Group designs and integrates energy supply and demand strategies to reduce your operating costs - by 20 percent or more. Reinvest your savings into facility improvements or apply them directly to your bottom line.

The contribution of renewable energy is considered as one of the high impact solutions to preserve nature, save our world and protect our inheritance. Be part of the future by helping to protect our environment and by preserving it for our future generations.

Our engineers are energy experts who can help customers realize energy savings - savings that can be redirected toward facility and operational improvements.

We'll use our knowledge and understanding of the shifting energy landscape to develop a full-circle strategy that actively monitors and controls your energy supply, energy-using assets and the real-time interaction between supply and demand. OEG can help you manage energy use across your entire enterprise.

Industrial Communication Solutions

OEG offers a range of Services and implementations of networks utilizing Intestinal Cable, Fiber Optics and WLAN devices designed specifically for harsh environments. All Industrial standard products will be implemented on a Unified Communication infrastructure to serve the needs of the industry.

Used in single applications or combined, they provide customers with unique solutions that meet even their most demanding requirements, and facilitate the seamless sharing of information throughout a facility to maximize security and productivity. As the system integrator of choice in the region for pipeline, refinery, Power Plant, Water Treatment and Offshore installations.

OEG introduces technology step-change by building on proven quality and performance in the Industrial Ethernet communication to serve as a single managed communication platform for Process Control, SCADA, Safety and Security Systems and Voice and Data Transmission.

ICT Infrastructure
Data Centers

In today's competitive environment, businesses rely on ICT to maintain high productivity and a competitive edge in the market-place. Reducing risks is a primary business need. Any outage of service means not only revenue loss but also loss of competitive advantage and opportunity. Even greater are the threats of a disaster which can cause irrecoverable business loss. Businesses need to protect themselves against such risks by building processes and technology in a way to ensure that the services run at all times without interruption. This is achieved by making the infrastructure highly available at all times on production sites and by implementing disaster recovery/business continuity infrastructure and procedures. OEG's qualified team designs and implements advanced solutions that provide high availability and disaster recovery for enterprise customers. Such solutions are designed and deployed in conjunction with our partners, such as HP, Microsoft, IBM, CA, Sun and others, in accordance with industry best practices and based on our decade-long experience.

OEG offers turnkey data centre services inclusive of design consulting, programmed management, build, populate and transfer of knowledge in Data Centre Operations.

Today, the competitiveness of a business depends on its agility and adaptability. This requires the ICT ecosystems within the enterprise to be more agile and adaptive in order to address growth, technical diversity, capacity enhancement, compliance, information security and manageability needs. Data Centres today have to be built with the aforesaid characteristics for the enterprise to maintain its business competitiveness.

Structured Cabling and LAN, WAN Solutions

A structured cabling system provides a platform upon which an overall information system strategy is built.

OEG designs and builds flexible cabling infrastructures - structured cabling systems that support multiple voice, data, video and multimedia systems irrespective of who the manufacturer is. We are a "one-stop shop" for all your organization network infrastructure needs. We will help you evaluate, design and install the optimum integrated system for your company.

New applications such as videoconferencing, Voice over IP (VoIP) and IP-enabled Intelligent Building Management Systems (IBMS) place ever-increasing demands on the bandwidth of structured cabling solutions. Copper-based technologies - which have been predicted as being at the threshold of obsolescence - have met the bandwidth challenge time and again. They support Gigabit Ethernet and even 10 Gigabit Ethernet standards up to the present time. Without doubt, copper technologies remain as essential a component in structured cabling solutions as fiber technologies.

OEG offers the complete range of structured cabling solutions, designed to meet technical requirements and budgetary constraints of clients. OEG works with clients, right from the initial consultancy and design to installation and maintenance of complex data and voice networks.

Our customers include commercial campuses, Industrial campuses and data centers, as well as a wide variety of industries such as oil and gas, utilities, healthcare, government contractors, universities, hotels, resorts, government departments and local councils.

ProCurve Networking by HP

ProCurve's adaptive networks vision is a natural outgrowth of the company's position as the number two worldwide networking company, built in a span of 25 years in the industry. HP's adaptive networks deliver high-performance, no-compromise functionality at affordable prices.

FOUNDRY NETWORKS

Foundry Networks provide a comprehensive, end-to-end IP infrastructure built on wire-speed, non-blocking architecture that offers reliability, availability and security to enterprises. With Foundry products in the network, enterprises can be confident that they can deliver both legacy applications and new applications such as voice and video.

Voice and Contact Centers

OEG enjoys a unique position in the market-place because of its offering of a choice of Voice solutions to its customers. This is achieved by partnering with many of the leading principals such as Avaya Communications, Mitel Networks, Cisco, Nortel and British Telecom (BT). This allows us to closely match the customer's requirements with the most appropriate solution. How is this unique? Virtually all other voice solution providers in the market offer single vendor choice, and a single vendor solution is offered for each and every requirement.
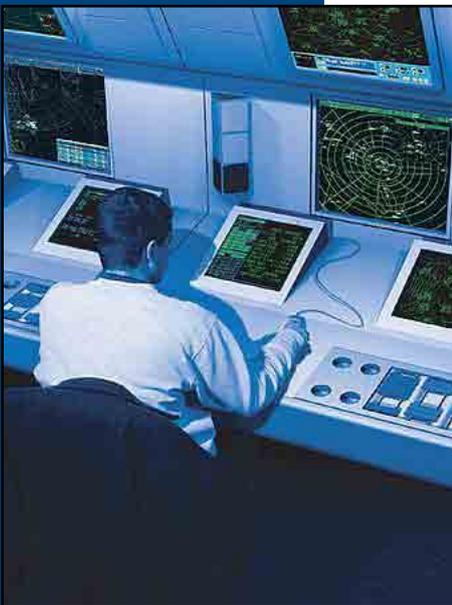
OEG's approach provides customers with another choice; we have to invest heavily in training and certification for our design and support engineers to be able to support this multi-vendor approach. As a result of this investment in training and support of a variety of systems, our engineers are exposed to a multitude of system faults. The broad skill base allows them to tackle and fix problems with a high degree of confidence and uniquely positions them to be able to cope with the more unusual faults.

CISCO   **AVAYA**   **BT**

MITEL | it's about YOU   **NORTEL**

Mission-Critical Sites, and Command and Control Centres

BT systems are used in mission-critical environments such as trading floors in banks and exchanges, and command and control centers at airports. The critical demands of the trading community are met efficiently with these systems, as are the demands to support these sites - many are covered by our 24×7×365×1 hour response contracts.

The Command and Control Centre of airports is equipped with a voice switch from BT and is capable of offering ground-to-ground and ground-to-air communications. By supporting specialized consoles, the agents offer vital information regarding various flights and other details to the ground crew as well as to the pilots. The switch is virtually non-blocking and offers the capability to handle a very high volume of incoming traffic. In fact, this system is the base of all movement control (ground and air) within the Airport.

CONTACT US

ORION
ENGINEERING GROUP

U.S. GREEN BUILDING COUNCIL
LEED
USGBC

Middle East office:
P.O Box 148 P.C. 117,
Al-Wadi Al-Kabir,
Sultanate of Oman.
Tel / Fax: +968 24503275

Europe office:
Suite 4, Skyway Building A
177, Marina Street
Pieta PTA 9042
Malta
Tel: (+356) 21 250 978
Fax: (+356) 21 222 664