

# PLESSEY SOUTH AFRICA



OVER 50 YEARS EXPERIENCE IN TELECOMMUNICATIONS SOLUTIONS  
ACROSS THE CONTINENT



Execution Excellence

A DIMENSION DATA COMPANY

# PLESSEY SOUTH AFRICA

## PLESSEY'S PROFILE

Plessey, with a track record spanning more than 50 years and regional offices in 13 African countries, is Africa's leading provider of telecoms infrastructure solutions. Plessey has built a reputation of trust and dependability through its project management approach and has as such become Africa's premier provider of turnkey telecommunications solutions.

Plessey's commitment to quality is demonstrated by the company's ISO 9001 accreditation and is acknowledged in the industry for its commitment to Execution Excellence and has attained a Level 3 BBBEE rating. Plessey's superior expertise has seen it build mobile network Base Transceiver Stations (BTS's), Wireless Local Loop (WLL) systems and Fibre Optic installations, in excess of 8 000 sites and 7500 km, respectively, in 24 countries in sub-Saharan Africa.

Recognizing that the key to quality is meeting and exceeding customer's delivery and cost expectations, Plessey strives to accelerate Execution of Excellence. We have earned a reputation of trust and dependability through our project management ethos. Projects are tightly managed to ensuring a consistent quality delivery at a cost well within the budget parameters. Plessey's solid vendor and contractor relationships, coupled with professional project management capabilities, enable the successful delivery of turnkey communications infrastructure solutions across multiple technology platforms.

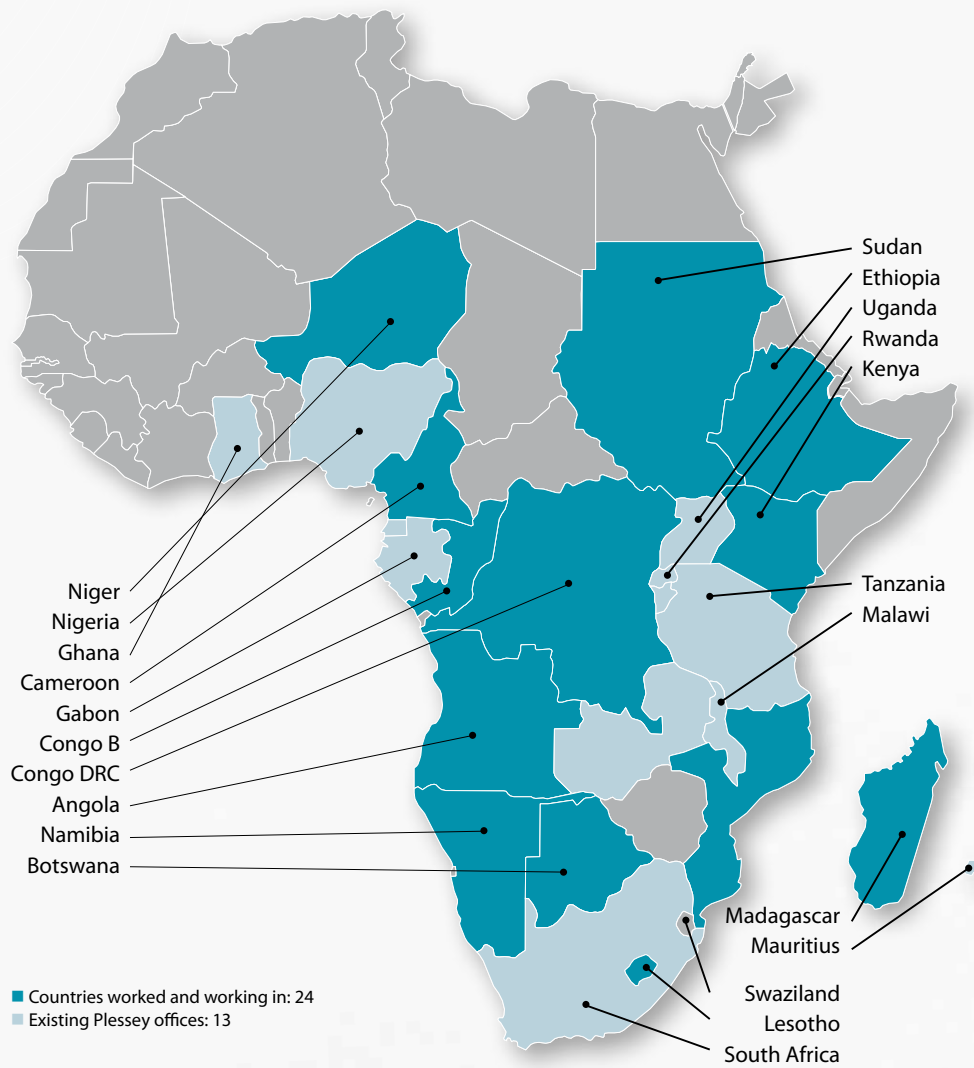
## WHAT WE DO

Plessey offers a broad range of end-to-end integrated telecommunications solutions. We provide site build and infrastructure establishment solutions that include towers and masts, civil works and equipment shelters.

Through our optical solutions, we specialise in the deployment of fibre optical cable for transmission backbone and metro networks. We also offer microwave transmission solutions, including the supply, installation and commissioning of point-to-point as well as point-to-multipoint services.

By partnering with world-leading wireless and satellite vendors, we give clients access to a wide range of applications and technologies, including WiMAX and broadband satellite services.

**Plessey (PTY) Ltd is 100% owned by Dimension Data Plc and enjoys the technology resources of one of the world's most pioneering IT solutions and service providers.**



**Plessey offers a broad range of end-to-end integrated telecommunications solutions.**



# TURNKEY TELECOMMUNICATIONS SOLUTIONS

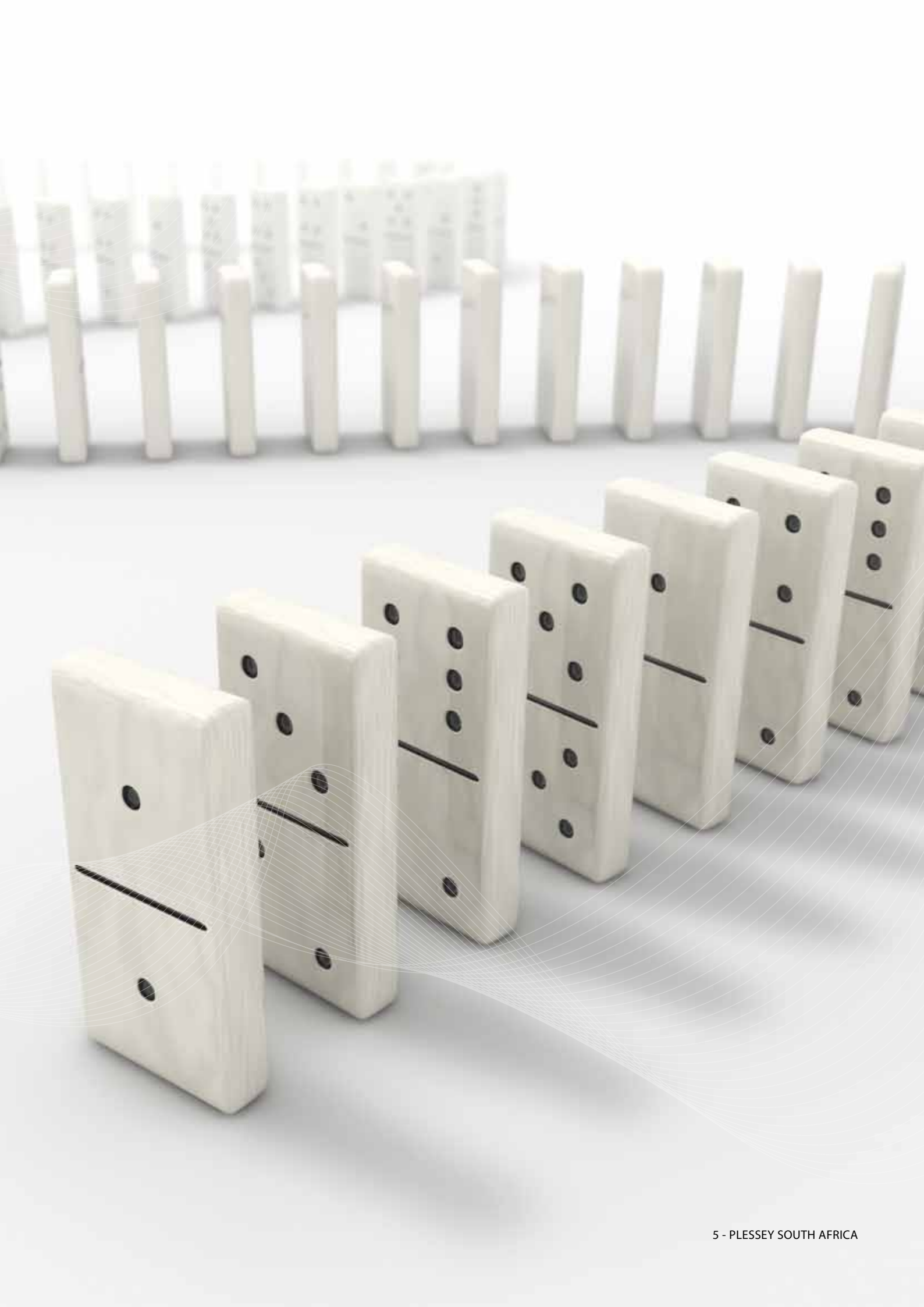
## TURNKEY

### **Africa's premier provider of turnkey telecommunication infrastructure solutions**

Plessey's solid vendor and contractor relationships, coupled with professional project management capabilities, enable the successful delivery of turnkey communications infrastructure solutions across multiple technology platforms.

Additionally, Plessey (Pty) Ltd is 100% owned by Dimension Data South Africa and enjoys the technology resources of one of the world's most innovative Information Technology (IT) solutions and service providers.

**Our services encompass voice; broadband data and IP based technologies which are provided through a comprehensive turnkey telecommunication solution to Service Providers and the Operator Market.**





### PROJECT MANAGEMENT APPROACH

Recognizing that the key to quality is meeting and exceeding customer's delivery and cost expectations, Plessey strives to Execute Excellently. We have earned a reputation of trust and dependability through our project management ethos. Projects are tightly managed to ensuring a consistent quality delivery at a cost well within the budget parameters.

### PAN AFRICAN FOOTPRINT

Plessey has a solid well established Pan African footprint, with a presence in several African countries and with more than ten registered branch offices. We believe that the key to our success is forming strong local partnerships with a firm commitment to skills transfer.

### INNOVATIVE THINKERS

Plessey's differentiation lies in our people. With a staff complement of more than 500 we foster a culture of innovative, lateral thinking and continuous improvement that adds to the value in the delivery of services and products.

### LOGISTICAL SUPPORT SERVICES

Plessey's Logistical Support Services boasts more than ten years of experience in exporting telecommunications equipment across the continent- to the right place and at the right time - via sea, air and road freight. A Global Insurance Policy covers shipment to all African countries where Plessey has a presence.

### PURCHASING/PROCUREMENT: LOCAL (USA) AND INTERNATIONAL

We ensure the supply of goods and services (locally and overseas) to our clients at the optimum combination of cost, quality, service and delivery in support of Plessey's internal and external clients' business objectives.

### EXPORT LOGISTICS/SHIPPING

Plessey's Logistical Support Services has vast experience in scheduling and managing air, sea and road freight to various African countries, including as diverse destinations as Burundi, Democratic Republic of Congo, Ghana, Mauritius, Madagascar, Malawi, Mozambique, Nigeria, Rwanda, Tanzania, Uganda and Zambia. We utilize the services of accredited freight forwarders (agents such as SDV, DHL/Danzas and Panalphina) for shipments to most destinations.

## TURNKEY COMMUNICATION SOLUTIONS

**Wireless Solutions**  
Industry leading, cutting edge wireless infrastructure

**Optical Solutions**  
Fibre optical solutions & Fibre optical services

**Radio Base Station Solutions**  
Dedicated to identifying the most suitable products

**Managed Services**  
Comprehensive end-to-end solutions

## WAREHOUSE: RSA & VARIOUS AFRICAN COUNTRIES

All the equipment for the local and export markets are handled at Plessey's 10 000m<sup>2</sup> logistical Facility in Johannesburg, with regional warehouse capabilities in Cape Town, Durban, Gabon, Malawi, Nigeria, Tanzania, Uganda and Zambia.

## LOGISTICAL SUPPORT SERVICES - KEY FACTS

- Sea freight to more than seven countries
- Air freight to more than ten countries - mainline flights and aircraft charters
- Road freight to more than four countries
- Extensive knowledge of in-Africa rules and regulations governing importation
- In-country transportation of materials from main warehouse to sites, using local transport contractors in more than six African countries

## PLESSEY AND ECONOMIC EMPOWERMENT

Plessey's vision is to become the prime example of Economic Empowerment and Transformation in the Telecommunications Industry. Through the implementation of programmes and initiatives, Plessey continues to be committed to both the letter and spirit of Broad-Based Black Economic Empowerment ("BBBEE"), as espoused by the ICT sector. Our policy is aligned to the Department of Trade and Industry's Codes of Good Practice, and is supported by all levels of staff.

To this end, Plessey's efforts in respect of BBBEE are focused on the following key areas:

- Ownership
- Management Control
- Employment Equity
- Skills Development
- Preferential Procurement
- Enterprise Development
- Socio-Economic Development

Plessey's code of conduct ensures that our first responsibility is to our customers through the timely delivery of innovative, price competitive, quality telecommunications and IT products and services.

Plessey also strives to create an enabling safe and healthy environment for employees and sub-contracting partners.

We acknowledge our responsibility with regard to the communities in which the company operates and will continue to encourage and support social upliftment projects within these communities.

## HONEYCOMB RATING

Plessey has attained a Level 3 BBBEE rating by an independent accredited rating agency, thus enabling its clients in South Africa to claim 110% of their spend with Plessey as preferential procurement. Plessey is fully committed to BBBEE and the development of its employees. The company also views its efforts with regard to Corporate Social Investment and Enterprise Development as key pillars to the creation of its own sustainability and the viability of its customers and markets within which it operates.

## PLESSEY'S STRUCTURE

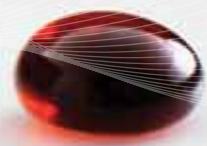


# PLESSEY WIRELESS SOLUTIONS OVERVIEW

## EXPERIENCE HIGHLIGHTS IN AFRICA

**More than 3000 wireless installations in  
over 15 African countries.**

Backed by years of experience and in - depth knowledge of microwave systems, Plessey is recognised as an industry leader in the supply of best of class radio products, planning and installation services of Point - to - Point and Point to Multipoint systems to leading telecommunications, data companies and public network operators. Plessey's relationship with several leading microwave vendors in the world allows us to meet the current and future needs of the telecommunications and private sector





## POINT-TO-POINT

- Unlicensed
  - Fractional E1
  - 1E1 to4E1
  - Ethernet
- Licensed
  - PDH
  - SDH Short Haul
- SDH Long Haul
  - Ethernet

## BROADBAND WIRELESS ACCESS SOLUTIONS

### Point-to-Multipoint

- Wireless Local Loop (WLL) Broadband
- 802.11 la, b, g
- WiMAX
  - 802.16d (2004) Fix and portable
  - 802.16e (2005) Portable and mobile
- CDMA
- LMDS
- TETRA

## FM TRANSMISSIONS

- Transmitters
- Combiners
- Antennas
- Management Systems

## PROJECT MANAGEMENT SERVICE

- Network and project design, implementation and integration with other technologies and networks
- Start to finish ownership
- Best of Breed Product selection
- Selection of state of the art products sourced world-wide
  - Terrestrial microwave radios
  - WiMAX
  - LMDS
  - CDMA
  - TETRA
  - Free Space Optics
  - Maintenance services with help desk facilities
  - Liaison with various regulatory authorities to obtain required operating frequencies

## CONSULTANCY

- Assist customers with identification and specifications of business opportunities
- Keeping customer updated with latest technology and worldwide trends
- Provide Turnkey Solutions

## SUPPLY CHAIN MANAGEMENT

- Procurement
- Equipment and asset management of products from the manufacturer to point of project completion
- International warehousing facilities
- Logistic support services

## DEVELOPMENT AND TRAINING

- Microwave radio training courses certified and accredited by international training organizations
- Practical hands on training



## MICROWAVE RADIO SERVICES

### We provide the following:

- Network design
- Link budget calculation
- Radio Frequency Planning
- Site surveys
- Installation according to international specifications and requirements
- Testing
- Standard 24 hour Soak test
- Network management system implementation
- Integration services into current network

## NETWORK PLANNING PROCESS

- Business and marketing plans
- Sites identification
- Defining of spectrum usage strategy
- LOS calculation and antenna height allocation
- Link budget calculation
- Coverage planning
- Frequency allocation
- Traffic allocation and simulation
- Capacity Planning
- Hand over calculation
- Interference calculation
- Optimization

## PLANNING SERVICES

- Point to Point terrestrial wireless systems
- Point to Multipoint terrestrial wireless systems
- WiMAX
- LMDS
- CDMA
- TETRA
- Free Space Optics

## MAP SUPPORT

- DEM, Clutter and Vector maps
- Details to 5m for all the major cities in Africa
- Details to 20m for all other cities in Africa
- Details to 30m for rest of Africa

## PLANNING EXPERIENCE

- Point to point microwave radio links
  - Licensed microwave radios
  - License exempt microwave radios
- Point to multi point microwave radio links
  - Licensed microwave radios
  - License exempt radios
- WiMAX
  - Fix and portable (802.16d)(2004)
  - Mobile (802.16e) (2005e)
- CDMA
- TERTA



# OPTICAL FIBRE CAPABILITY OVERVIEW

## PLESSEY FIBRE OPTICAL SOLUTIONS

### **We specialise in the installation of optical fibre.**

By analysing your communication needs, we can design an efficient backbone or metro network utilising the appropriate cabling technology.

Our experience in Optical Solutions dates back to the inception of mobile networks in 1993. Our Optical Solutions are typically applied for transmission backbones and metro networks. We also provide turnkey optical fibre transmission systems for security monitoring, industrial control and smart highway communication.

**Premium optical solutions  
that grow with your  
communication needs**

Currently there are regional offices in Southern, East, West and Central Africa.  
Additionally Plessey has worked in 24 countries in Sub-Saharan Africa.

- In excess of 5500km underground fibre optic installations
- In excess of 1500km OPGW and ADSS overhead fibre optic installations





**Plessey is determined  
to play an active role in  
the growth of Africa's  
internet market**



## **TURNKEY PROJECT MANAGEMENT**

- Scope, schedule, cost, approach and document
- Management and control

## **SURVEY AND DESIGN**

- Detailed route and requirement surveys
- Design in accordance with customer requirements and specifications
- Creation of bill of services and bill of materials

## **BEST OF BREED PRODUCT**

- State of the art globally sourced product
- Selection of best product for the specific design

## **RIGHT OF WAY**

- Liaison with various road and utility agencies and lodging of right of way applications
- Obtaining approvals

## **ENVIRONMENT IMPACT ASSESSMENT**

- Assessment and analysis at planned construction activities
- Assessment of the environment characteristics
- Compilation of basic assessment report
- Compilation of environment management plan

## **EXCAVATION AND TRENCHING TECHNOLOGIES**

- OPGW, ADSS and SkyWrap technologies enabling rapid deployment with limited environmental impact
- Incorporating improved efficiency and lowering of costs and time to market

## **ANCILLARY SUPPORT TECHNOLOGIES**

- Drilling underneath highways, roads and rivers to install infrastructure. Minimal disruption to road traffic highly efficient and latest technology ground penetrating radar for location and detection of underground services

## **CONSULTANCY SERVICE**

- Assist customer with specifications, design and BOQ.
- Keeping customer updated with latest technology, trends and industry best practices
- Provide turnkey engineered solutions

## **FIBRE BLOW-IN TECHNOLOGIES**

- Installation of fibre optic cable into underground duct by air blowing methods
- Installation methodologies include sub-duct and micro-duct

## **FIBRE SPLICING AND TESTING TECHNOLOGIES**

- Fusion splicing of optical fibres in underground chambers, overhead routes or equipment rooms
- Comprehensive end to end testing utilising the latest technology

## **SUPPLY CHAIN MANAGEMENT**

- Procurement
- Management of product from the manufacturer to point of installation
- Warehousing

## **TRAINING**

- Provision of fibre optic training courses certified and accredited by international training organisations including practical hands on training

## **ENVIRONMENT MANAGEMENT / GREEN**

- Plessey is committed to the investment and implementation of environment management systems to reduce the impact our products and services have on the environment
- ISO 14001 certified

## **QUALITY MANAGEMENT**

- ISO 9001: 2000 certified

# RADIO BASE STATION CAPABILITY OVERVIEW

## RADIO BASE STATION INFRASTRUCTURE

Today's Radio Base Station Infrastructure involves a comprehensive process of identifying the most suitable products, purchase negotiations, civil works, tower construction, electrical, RF, power and backup-power provision, site commissioning, security, monitoring and maintenance.

Plessey provides turnkey Radio Base Station Infrastructure services and solutions for telecommunications service providers in 24 countries across Africa. Over 15 000 BTS sites built in Africa.

**Currently there are regional offices in Southern, East, West and Central Africa and offices in various countries. Additionally Plessey has worked in 24 countries in Sub- Sahara Africa.**

- **Over 10,000 sites built in Africa**
- **Currently there are 13 offices across the African continent**

**We pride ourselves as being a leader in the field of turnkey site build services.**







## TURNKEY PROJECT MANAGEMENT

- Scope, schedule, cost, approach, and document
- Management and control
- Start to finish ownership

## SURVEY AND DESIGN

- Perform a detailed site survey and record all site information
- Perform a detailed site survey and record all site information
- Design site layout according to Customer specifications and requirements
- Do soil tests
- Create a detailed site survey report
- Create a bill of services
- Civil works
- Power Systems / Solar Systems
- Equipment Shelters
- RF Installation
- Logistics
- Create a bill of material
- Design site layout according to Customer specifications and requirements
- Do soil tests
- Create a detailed site survey report
- Create a bill of services
- Civil works
- Power Systems / Solar Systems
- Equipment Shelters
- RF Installation

## SUPPLY CHAIN MANAGEMENT

- Coordinate shipment with in-country team
- Make use of reputable freight forwarders
- In country warehousing
- Plan and schedule shipments from suppliers

## IN-COUNTRY LOGISTICS

- Plan delivery to site
- Local transporting to site

## SITE BUILD

- Special Designs
- Site Clearing and Marking
- Foundation Construction
- Road Construction
- Tower Erection
- Power Systems
- Equipment Shelters
- Fencing and Walling
- RF Installation and Testing
- Site Finishing

## TRAINING

- To ensure continuous improvement and technology updates, Plessey has invested in a training academy
- Retraining of all supervisory and subcontract base is conducted on a regular basis both at head office and in-country

# PLESSEY REGEN SITES

Plessey has regeneration sites designed to boost bandwidth capacity available in South Africa.



## PLESSEY REGEN SITE STANDARDS

- Built to highest quality standards.
- These sites house optical amplification equipment for major telecoms providers.
- There is sufficient space to accommodate up to 7 industry players.
- A stringent service level is maintained through a combination of backup generators and sufficient DC batteries which ensure a stable supply of energy even when the main utility fails.
- Positioned to ensure maximum amplification equipment efficiency.
- State of the art monitoring equipment allows the sites to be remotely monitored where vital status information is relayed back to the 24 hour manned Plessey NOC (network Operations Centre).
- Maintenance teams are well equipped and strategically positioned and ensure that faults are quickly restored against very stringent Service Level Agreements.
- Currently there are regional offices in Southern, East, West and Central Africa. Additionally Plessey has worked in 24 countries in Sub – Sahara Africa.
- Over 5500km underground fibre optic installations.
- Over 1500km OPGW and ADSS overhead fibre optic installations.

# PLESSEY OPERATION AND MANAGEMENT

## OPERATION AND MANAGEMENT SERVICES

**Operation and Management provides us with the capability of providing full turnkey project management.**

This includes: Evaluation, Restoration, Security Management, Power and Environmental Management, Fuel Management, Incident Management, Technology Refreshment, Workforce Management, Service Level Agreement, Asset Management, Decision Support and Preventative and Remedial Maintenance.



## **EVALUATOR**

- Site visit and method statement
- Assessment of serviced infrastructure
- Structural and wind loading analysis
- Process review
- Report, timelines and recommendations

## **RESTORER**

- Refurbishment of serviced infrastructure
- Process implementation
- Management of tower rectification works
- Structural certification

## **SECURITY MANAGEMENT SYSTEM**

- Access control and surveillance systems
- Physical and operational security
- Intruder and tamper detection

## **POWER AND ENVIRONMENTAL MANAGEMENT SYSTEM**

- Smart Metering
- Energy Usage Analysis
- Optimize energy consumption
- Power failure detection
- Generator Test and Optimization
- Shelter temperature KPI
- Lower operating costs and
- Smaller carbon footprint

## **FUEL MANAGEMENT SYSTEM**

- Prioritised Refueling
- Fuel leakage detection
- Fuel Log reporting
- Automatic refuel ordering
- Reduce theft and leakage

## **INCIDENT MANAGEMENT SYSTEM**

- Refurbishment of serviced infrastructure
- Process implementation
- Management of tower rectification works
- Structural certification

## **TECHNOLOGY REFRESH**

- End of Life planning
- Technology refresh policy
- Hybrid energy solutions

## **WORKFORCE MANAGEMENT SYSTEM**

- Demand management
- Workforce scheduler
- Workforce dispatcher
- Mobile solutions

## **SERVICE LEVEL AGREEMENT**

- Key Performance Metrics
- Change Management
- Performance Reporting

## **ASSET MANAGEMENT**

- Asset tracking
- Forecasting demand
- Improved efficiency
- Inventory optimisation
- Improved return on assets

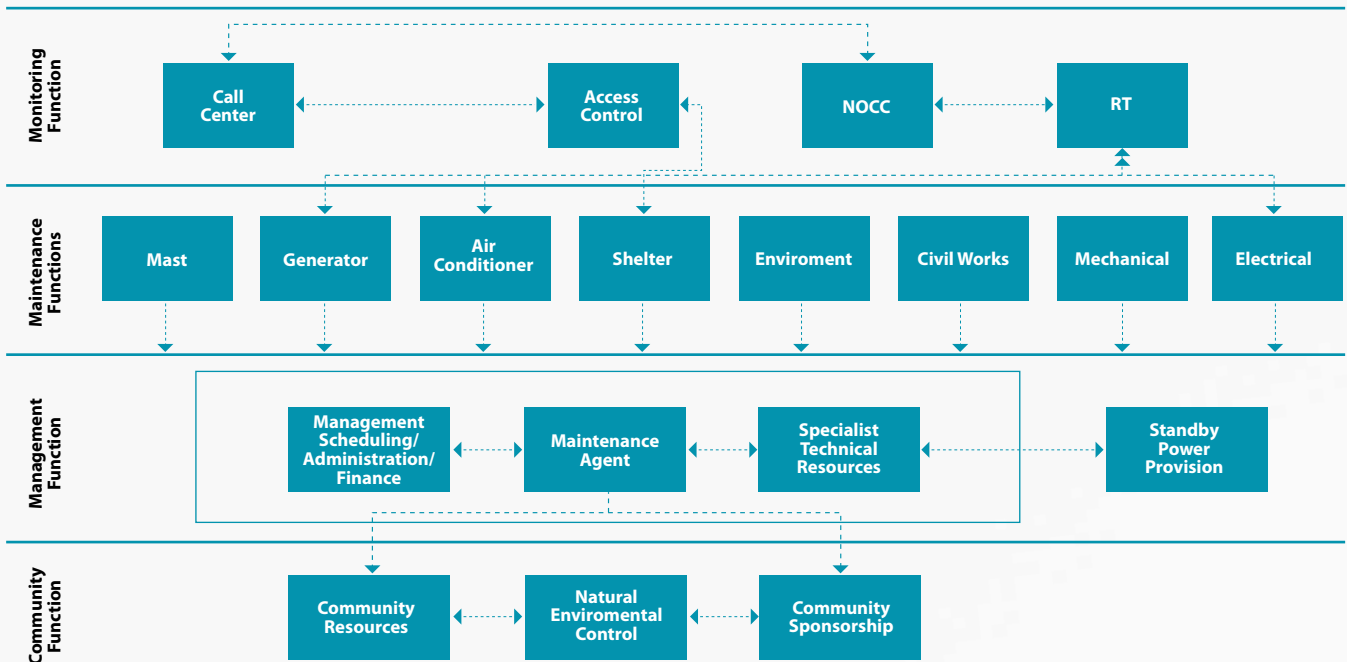
## **DECISION SUPPORT**

- Trend analysis of failure statistics
- Automation and rule based workflow
- Event correlation
- Smart scheduling

## **PREVENTATIVE AND REMEDIAL MAINTENANCE**

- Site Infrastructure janitorial
- Tower maintenance
- Diesel Generator maintenance
- DC Power plant maintenance
- Air conditioning maintenance
- Fire protection maintenance
- Shelter maintenance
- Management and storage of spares and consumables

## SERVICED INFRASTRUCTURE PROCESS



Premium telecommunication solutions that grow with your communication needs



# Accelerating the digital decade in Africa

## Head Office

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