Yokogawa in the Mining, Minerals Processing and Metals Industry
The Sub-Saharan African market is one of the most important markets in Yokogawa’s global business plan towards becoming worldwide market leader in the Industrial Automation and Control Industry. Yokogawa has grown the Middle East & Africa region through responding to customers’ need to maximise local content and has established local customer support capabilities throughout this region.

Service and engineering centres are operating and will continue to expand in African countries where required. Yokogawa Middle East & Africa has executed more than 700 projects including numerous mega projects, and currently has the largest engineering facility in the Yokogawa group of companies today, in terms of space.

This capacity has been expanded to support the growing Sub-Saharan African market.

Yokogawa is committed to continuously develop and supply solutions and services with optimum quality and reliability thereby contributing to industrial growth in Africa.

We would like to take this opportunity to assure you of our commitment to customer satisfaction.

JOHAN LOUW
Managing Director:
Yokogawa South Africa & African Anglophone Region (Pty) Limited

Yokogawa Core Values

- **Create Value:** We create value together with customers providing superior performance and developing customer loyalty
- **Collaboration:** We collaborate with our stakeholders to achieve mutual objectives
- **Respect for Individuals:** We respect and trust each individual
- **Integrity:** Our business practices are fair and open
- **Gratitude:** We show appreciation and recognise effort

Yokogawa South Africa (Pty) Ltd
Yokogawa South Africa is a turnkey supplier of high performance, high quality process control and field instrumentation systems, solutions and services in the chemical, food & beverage, iron & steel, mining, petrochemical, power generation and pulp & paper industries.

Yokogawa South Africa is a Level 4 B-BBEE Contributor providing our customers with 100% recognition for any spend with Yokogawa South Africa (Pty) Ltd.

Yokogawa African Anglophone Region

Yokogawa African Anglophone Region (Pty) Ltd has a network of branch offices and agents throughout Southern Africa covering the territories of Botswana, Lesotho, Malawi, Mozambique, Madagascar, Mauritius, Namibia, Swaziland, Zambia and Zimbabwe.

Incorporated in 2013, the company was established to meet the industrial automation needs of the existing installed base across 10 African countries. The region is serviced by experienced representatives who strive to deliver customer satisfaction to all clients and customers in the Southern Africa region.

Mining & Mineral Processing

Yokogawa’s core operating platform, CENTUM VP, empowers users in the Mining and Mineral processing industry to compose workflows ensuring maximum efficiency and profitability, always allowing total insight and control of the process chain. From mining, materials handling, mineral processing, smelting, refining and recovery, all production capabilities and statistics are easily available.

Yokogawa’s commodity capabilities include:

- Base Metals (i.e. Aluminium and Copper)
- Coal
- Diamonds
- Ferrous Metals (Iron ore, Chromite, Manganese and Vanadium)
- Gold
- Platinum Group Metals (i.e. Platinum and Palladium)
- Rare Earths
- Uranium

Sensor to Enterprise Integration

Level 4
- Business Planning and Logistics
- Enterprise Resource Planning, Supply Chain Management, Hydrocarbon Management etc.

Level 3
- Real-time Production Organizer
- Exaquantum
- Esmonex
- Exarage
- Exalpha
- VVIP
- MIS/MES
- and many more.

Level 2
- Control Systems
- and many more.

Level 1
- Field Instrumentation
- and many more.
“Reliability and maintainability” of automation systems maximizes plant availability

“Plant-wide automation” enhances agility and flexibility of mineral processing production workflow

“Production efficiency improvement” increases profitability and enhances health, safety and environment

“Lifetime partnership” maximizes total value of ownership
Complex revamp/expansion projects test the alertness, care and skill of both the user and the supplier of automation. Yokogawa delivers practical engineering solutions with professional care, modernizing and expanding your plant with minimum disturbance to your business.

Ongoing adaptation and optimization requires continued collaboration. Yokogawa keeps in close touch with your investment through 24/7 operational support and expert consultation services.

Good coordination between multiple suppliers and engineering teams is the key success factor in commissioning. Yokogawa ensures both human collaboration and technical integration throughout the project life cycle.

Early involvement and collaborative project execution lowers the overall risk of the project. Yokogawa strives to understand the goals of each project upfront and to secure a firm platform for on-going teamwork. Throughout execution, Yokogawa secures strict quality gates based on proven procedures.

"CENTUM VP provides an excellent platform for the comprehensive and coordinated control of Mining assets and Mineral Processing plants."

"Reliability and maintainability" of automation systems maximizes asset availability.

"Reliability and maintainability" of automation systems maximizes asset availability.

One of the most fundamental and often overlooked factors for maximizing revenue is the reliability and maintainability of automation systems. Utmost system availability is a key prerequisite for mining assets and mineral processing plants.

Design & Engineering
Early involvement and collaborative project execution lowers the overall risk of the project. Yokogawa strives to understand the goals of each project upfront and to secure a firm platform for on-going teamwork. Throughout execution, Yokogawa secures strict quality gates based on proven procedures.

Installation & Commissioning
Good coordination between multiple suppliers and engineering teams is the key success factor in commissioning. Yokogawa ensures both human collaboration and technical integration throughout the project life cycle.

Operation & Optimization
Ongoing adaptation and optimization requires continued collaboration. Yokogawa keeps in close touch with your investment through 24/7 operational support and expert consultation services.

Reliability is in our DNA. Reliability of the production control system.

All automation suppliers take system reliability, a key factor for mineral processing plant availability, seriously. However, none matches Yokogawa in its extreme commitment. At the heart of all the company’s systems is the unique “Pair and Spare” controller architecture, consisting of a redundant set of CPU modules that, in turn, contains two microprocessors. These two microprocessors constantly compare each other’s outputs, initiating a seamless switchover if any mismatch is detected.

The actual availability track record of Yokogawa CENTUM DCS reaches 99.99999% (seven nines).
Yokogawa is an automation supplier with extensive hands-on understanding of the usage of information for complex and varied mineral processing production processes. Yokogawa is a premier supplier of integrated plant-wide automation solutions that deliver agility and flexibility to all process workflows.

Total Mining, Mineral Processing and Metals Plant Control System

“Plant-wide automation” enhances agility and flexibility of processing workflow

Production Control Systems

We provide our customers with a range of systems that support the safe and efficient operation of their plants. These include highly reliable production control systems for the control and monitoring of plant operations, safety instrumented systems that are fully integrated with plant production control systems to achieve the highest levels of safety, and network-based control systems and programmable logic controllers that are both highly reliable and versatile. Yokogawa PLCs offer the fastest update rates for high speed applications and are electrically and environmentally robust.

Safety Instrumented Systems

Yokogawa has over 50 years of experience in the development and implementation of safety systems. The world’s first truly integrated safety controller was released by Yokogawa in 2005, achieving absolute integrity between distributed control systems (DCS) and safety instrumented systems (SIS) for plant automation.

The ProSafe-RS is certified by the German certification organization, TÜV, to meet Safety Integrity Level (SIL) 3 specified in IEC 61508. Our expertise covers all major applications such as ESD (Emergency Shut Down), F&G or FGS (Fire and Gas Systems), BMS (Burner or Boiler Management Systems) as well as HIPPS or HIPS (High Integrity (Pipeline) Protection Systems).

Management Information Systems (MIS) / Management Execution Systems (MES)

Yokogawa’s MIS / MES systems consistently ensure fast return on investment and help operators to keep their plant operating environments optimized for years after the initial implementation.

Yokogawa’s MIS / MES platform applications collect and store large volumes of process data providing actionable information that can be viewed and analysed by key personnel.

Common to all Yokogawa products is our commitment to ensuring there is always a clear migration path available for all our customers.

Advanced Process Solutions

Safety Excellence
- Advanced Decision Support
- Alarm Rationisation
- Regulatory Control Stabilisation
- Control Room Design
- Incident Analysis
- Integrated Closed Circuit Television (CCTV)
- Cyber Security

Asset Management
- Optimise Plant Asset Effectiveness
- Maximise Plant Uptime
- Plant Asset Management

Production Excellence
- Energy Management Solutions
- Best Practice Pilot
- Regulatory Control Stabilisation
- Platform for Advanced Control and Estimation (APC)
- Blend Property Control
- Real-time Production Organiser
- Operator Training System
To build a manufacturing system that can immediately respond to the diverse needs of today’s globally networked society, an electronic Real Time Manufacturing (e-RMTM) system is required. This is a new concept that promotes the standardization of system configurations and component-based applications, using IT networks to link resource planning, manufacturing systems and control throughout the enterprise.
Field Instruments Industrial Automation

“Production efficiency improvement” increases profitability and enhances health, safety and environment

Vortex Flowmeter: Digital YEWFLO
The Digital YEWFLO Vortex Flowmeter combines the field proven sensor and body assembly used in more than 260,000 units installed worldwide with a unique and powerful combination of digital technology that includes spectral signal processing (SSP), a Yokogawa innovation. The digital YEWFLO vortex flowmeter is accurate and stable, even in harsh process conditions, and has a highly reliable and robust design that delivers improvements in plant efficiency and reduced operating costs.

Magnetic Flowmeter: ADMAG Series AXF™
AXF/ReX magnetic flowmeters are sophisticated products with outstanding reliability and ease of operation, developed on the basis of decades of field experience. The ADMAG AXF™ employs the fluid noise free "Dual Frequency Excitation Method," achieving excellent stability for instrumentation. A variety of liners enable you to choose a meter suitable for applications such as water, acid and slurry.

Field Wireless System – Pressure Transmitter DPHarp EJX B Series
The high performance differential pressure and pressure transmitters EJX feature a single crystal silicon resonant sensor and are suitable to measure liquid, gas or steam flow as well as liquid level, density and pressure. These transmitters send not only process variables, but also the setting parameters, using wireless signal. The transmitters are powered by internal batteries and the installation cost can be decreased as hard-wiring is not required. Communication is based on ISA100.11a protocol specifications.

Temperature Transmitters: YTA110 and YTA70
The YTA110 is a high performance temperature transmitter that accepts thermocouple, RTD, ohms or DC millivolt inputs. The dual input type independently measures and calculates process values for Sensor 1 and Sensor 2. YTA510 transmits not only process variables, but also the setting parameters, using wireless signals. The transmitters run on internal batteries and installation costs may be decreased as hard-wiring is not required. The communication is compliant with ISA100.11a protocol specifications.

Field Wireless System – Multi-input Temperature Transmitter YTMX580
The YTMX580 can accept inputs from up to 8 points of measurement such as thermocouples (8 types: K, E, J, etc.) or RTD signals (3 types: Pt100, etc.), converting the corresponding measurement input values to a wireless signal. It can also accept DC voltage, resistance and 4 to 20 mA DC signal input. In addition to temperature signals, it can also wirelessly send and receive setting parameters. Internal battery power means eliminating not only signal wires, but also power cables—this offers great installation cost reductions. The communication is compliant with ISA100.11a protocol specifications.

Field Wireless System: Multi-input Temperature Transmitter YTMX580
The YTMX580 can accept inputs from up to 8 points of measurement such as thermocouples (8 types: K, E, J, etc.) or RTD signals (3 types: Pt100, etc.), converting the corresponding measurement input values to a wireless signal. It can also accept DC voltage, resistance and 4 to 20 mA DC signal input. In addition to temperature signals, it can also wirelessly send and receive setting parameters. Internal battery power means eliminating not only signal wires, but also power cables—this offers great installation cost reductions. The communication is compliant with ISA100.11a protocol specifications.

Pressure Transmitters – DPHarp EJX/EJA Series
The EJX range of transmitters is Yokogawa’s premium performance line of DPHarp pressure transmitters. Released in 2004, it offers the most technologically advanced solution with class leading performance and stability specifications. In addition, the EJX family offers unique features such as standard IEC61508 certification, optional contact output, advanced diagnostics, multivariable mass flow measurement and ISA100 wireless capability. Suitable for harsh mineral processing environments.

Variable Area Flowmeter: RAMC
The short-stroke Rotameter RAMC allows for the measurement of high flow rates using a relatively short metering tube. It is a stainless steel armoured construction for the safe measurement of a variety of liquids, gases and steam. Its special application is for hazardous, dangerous or aggressive fluids, for high temperatures and high pressure rates. It has an electronic transmitter and Hart® communication that offers a high degree of safety thanks to the patented float blockage detection function.

Field Wireless System: Integrated Gateway YFGW710
The YFGW710 Field Wireless Integrated Gateway complies with the wireless communications standard ISA100.11a for industrial automation set by the International Society of Automation (ISA) and relays ISA100 device data to the system via an integrated backbone router. A YFGW710 unit has integrated functions including backbone router, system manager, security manager and gateway manager.

Field Wireless System: Temperature Transmitter YTA510
The YTA510 is the high performance temperature transmitter that accepts thermocouple, RTD, ohms or DC millivolt inputs. The dual input type independently measures and calculates process values for Sensor 1 and Sensor 2. YTA510 transmits not only process variables, but also the setting parameters, using wireless signals. The transmitters run on internal batteries and installation costs may be decreased as hard-wiring is not required. The communication is compliant with ISA100.11a protocol specifications.

Field Wireless System: Multi-input Temperature Transmitter YTMX580
The YTMX580 can accept inputs from up to 8 points of measurement such as thermocouples (8 types: K, E, J, etc.) or RTD signals (3 types: Pt100, etc.), converting the corresponding measurement input values to a wireless signal. It can also accept DC voltage, resistance and 4 to 20 mA DC signal input. In addition to temperature signals, it can also wirelessly send and receive setting parameters. Internal battery power means eliminating not only signal wires, but also power cables—this offers great installation cost reductions. The communication is compliant with ISA100.11a protocol specifications.

Field Wireless System: Temperature Transmitter YTA510
The YTA510 is the high performance temperature transmitter that accepts thermocouple, RTD, ohms or DC millivolt inputs. The dual input type independently measures and calculates process values for Sensor 1 and Sensor 2. YTA510 transmits not only process variables, but also the setting parameters, using wireless signals. The transmitters run on internal batteries and installation costs may be decreased as hard-wiring is not required. The communication is compliant with ISA100.11a protocol specifications.

Field Wireless System: Multi-input Temperature Transmitter YTMX580
The YTMX580 can accept inputs from up to 8 points of measurement such as thermocouples (8 types: K, E, J, etc.) or RTD signals (3 types: Pt100, etc.), converting the corresponding measurement input values to a wireless signal. It can also accept DC voltage, resistance and 4 to 20 mA DC signal input. In addition to temperature signals, it can also wirelessly send and receive setting parameters. Internal battery power means eliminating not only signal wires, but also power cables—this offers great installation cost reductions. The communication is compliant with ISA100.11a protocol specifications.

Field Wireless System: Integrated Gateway YFGW710
The YFGW710 Field Wireless Integrated Gateway complies with the wireless communications standard ISA100.11a for industrial automation set by the International Society of Automation (ISA) and relays ISA100 device data to the system via an integrated backbone router. A YFGW710 unit has integrated functions including backbone router, system manager, security manager and gateway manager.

Field Wireless System: Temperature Transmitter YTA510
The YTA510 is the high performance temperature transmitter that accepts thermocouple, RTD, ohms or DC millivolt inputs. The dual input type independently measures and calculates process values for Sensor 1 and Sensor 2. YTA510 transmits not only process variables, but also the setting parameters, using wireless signals. The transmitters run on internal batteries and installation costs may be decreased as hard-wiring is not required. The communication is compliant with ISA100.11a protocol specifications.

Field Wireless System: Multi-input Temperature Transmitter YTMX580
The YTMX580 can accept inputs from up to 8 points of measurement such as thermocouples (8 types: K, E, J, etc.) or RTD signals (3 types: Pt100, etc.), converting the corresponding measurement input values to a wireless signal. It can also accept DC voltage, resistance and 4 to 20 mA DC signal input. In addition to temperature signals, it can also wirelessly send and receive setting parameters. Internal battery power means eliminating not only signal wires, but also power cables—this offers great installation cost reductions. The communication is compliant with ISA100.11a protocol specifications.

Field Wireless System: Integrated Gateway YFGW710
The YFGW710 Field Wireless Integrated Gateway complies with the wireless communications standard ISA100.11a for industrial automation set by the International Society of Automation (ISA) and relays ISA100 device data to the system via an integrated backbone router. A YFGW710 unit has integrated functions including backbone router, system manager, security manager and gateway manager.

Field Wireless System: Temperature Transmitter YTA510
The YTA510 is the high performance temperature transmitter that accepts thermocouple, RTD, ohms or DC millivolt inputs. The dual input type independently measures and calculates process values for Sensor 1 and Sensor 2. YTA510 transmits not only process variables, but also the setting parameters, using wireless signals. The transmitters run on internal batteries and installation costs may be decreased as hard-wiring is not required. The communication is compliant with ISA100.11a protocol specifications.
"Production efficiency improvement" increases profitability and enhances health, safety and environment.

The accurate and stable measurement of the process value with Yokogawa Field Instruments supports the safe and reliable operation in your plant.

**Liquid Analytical: FLEXA21**
The FLXA21 is a next-generation modular liquid analyzer that can be flexibly configured to measure pH/ORP, contacting conductivity, inductive conductivity, or dissolved oxygen. The FLXA21 also supports the installation of up to two sensors of the same type, thereby reducing installation costs and saving space in addition to enabling the configuration of a highly-reliable backup system.

**Electrodes and Sensors**
The heart of an analytical measuring loop is the electrode system. Yokogawa has designed a wide range of sensors to ensure this heart keeps beating under the most severe conditions.

**Tunable Diode Laser Spectroscopy Analyzer TruePeak: TDL5200**
The TDL5200 TruePeak Tunable Diode Laser (TDL) Analyzer is capable of measuring a number of near-infrared absorbing gases in harsh process environments. Able to make measurements under very challenging high temperature and pressure conditions as well as environments containing many corrosive, aggressive, and high particulate content materials, the TruePeak analyzer is one of the most robust process analyzers available.

**In Situ Zirconia Oxygen Analyzer: ZR402G**
The ZR402G Zirconia Oxygen Analyzer features a touch screen LCD with excellent operability for settings, calibration and trend graph viewing. The probe uses a highly-reliable zirconia sensor and a field-replaceable heater assembly.

**Controller Series: UT35/55 Advanced**
The UT35/55 Advanced® Digital Indicating Controllers offer the following features as a standard: built-in control functions, ladder sequence control, fuzzy logic control, complete networking capabilities – Modbus TCP/RTU, CC Link and DeviceNet. These controllers present ideal low cost solutions for modular and remote plants within mines.

**Data Acquisition: SMARTDAC+™**
A fresh approach to data acquisition and control, with smart and simple touch operation as a design priority. Measure, display and archive process data with greater levels of clarity, intelligence and accessibility. The SMARTDAC+™ concept begins with the all-new GX/RGP, an integrated I/O and recording system with a familiar touch operator interface. The new GX/RGP is highly adaptable, very capable and easy to operate.

**Web-enabled Data Acquisition System: MW100**
Using your web browser, access any number of MW100s within a plant or installation, to see real-time site conditions and equipment operating status. The functionality of the web browser allows information sharing from multiple locations and constructs highly distributed remote monitoring data acquisition systems that are ideal for facilities management and equipment monitoring.

**Digital Indicator with alarms: UM33A**
The UM33A is a newly-released digital indicator with alarms, providing up to 9 alarm outputs and input correction functions (PV bias, Polygonal line approximation, polygonal line bias). A 24V DC sensor power supply is available as an option.

**Versatile Device Management Wizard: FieldMate™**
FieldMate™ is a PC-based configuration tool that performs tasks including initial setup, daily maintenance, troubleshooting and configuration backup for device replacement. These tasks are streamlined by FieldMate™ intuitive operation and integrated environment which is independent of communication protocols and device vendors. FieldMate™ incorporates the open FDT/DTM standard and is compliant with DTM’s per the FDT 1.2 standard. Additionally, FieldMate™ supports both HART® and Foundation Fieldbus H1 devices.

**Handheld Communicator: YHC5150X FieldMate™**
The YHC5150X FieldMate™ Handheld Communicator is the latest HART® Communicator from Yokogawa. All HART® field devices can be configured, polled and trimmed utilizing a Windows Embedded CE® based system for faster processing and greater storage capacity. All options are standard and no subscription is required. The YHC5150X is a full function, DD Direct, HART® Communicator supporting universal, common practice and device specific commands for commissioning, configuration and maintenance operations.
Your Single-Source Partner for Operational Excellence

“Lifetime partnership” maximizes total value of ownership

Long-term business success needs a long-term strategy. A long-term partnership with Yokogawa will help provide the highest total value of ownership for automation solutions.

Industry leaders striving for operational excellence will benefit from a new vigilant approach to plant automation. Yokogawa VigilantPlant solutions help measure, control and optimize your processes, ensuring plant-wide integration. A worldwide network of committed experts supports your operations 24/7 for life-cycle optimization.

### Production Management
- Plant Information Management
- Advanced Process Control
- Operator Training Simulator

### Asset Management and Operational Efficiency
- Operation Efficiency Improvement
- Integrated Plant Resource Management

### Production Control and Safety Management
- Integrated Production Control
- Integrated Safety Management
- SCADA and Network-based Control
- High Integrity Pressure Protection Systems (HIPPS)

### Open System Integration
- GST

### Sensing and Actuation
- Flow
- Pressure
- Multivariable
- Temperature
- Valve Positioner / Others

### Gas Analyzers
- Gas Analyzer
- Advanced Analyzer
Coal

Yokogawa Instrument Users

Anglo Coal’s Capcoal mine, Bowen Basin Qld
- AXF flow meters and EJX pressure transmitters

Anglo Coal’s Dawson mine, Bowen Basin Qld
- AXF flow meters, EJX transmitters, Rotamass

Anglo Coal’s Moranbah North, Bowen Basin
- AXF flow meters and analytical products

Yancoal’s Austar Coal mine, Hunter Valley
- EJX transmitters, analytical products

BHP Billiton’s BMA, Bowen Basin Qld
- AXF flow meters, EJX transmitters

GlencoreXstrata’s Bulga mine, Hunter Valley NSW
- AXF flow meters

Caledon Coal, Bowen Basin Qld
- AXF flow meters, EJX transmitters

Integra Coal, Hunter Valley
- AXF flow meters, EJX transmitters

GlencoreXstrata’s Newlands Coal, Bowen Basin Qld
- EJX transmitters

Peabody’s North Goonyella Coal, Bowen Basin Qld
- Rotamass

GlencoreXstrata’s Oaky Coal, Bowen Basin Qld
- AXF flow meters

Port Waratah Coal services, Hunter Valley NSW
- AXF flow meters

Rio Tinto Coal, Bowen Basin
- AXF flow meters and EJX pressure transmitters

Peabody’s Coppabella mine, Bowen Basin
- AXF flow meters and EJX pressure transmitters

GlencoreXstrata’s Ulan Coal, western NSW
- AXF flow meters and EJX pressure transmitters

Wesfarmers Curragh, south west WA
- AXF flow meters and EJX pressure transmitters

Copper

Yokogawa Instrument Users

Aditya Birla’s Nifty and Mt Gordon mines, located in the Pilbara and Mt Gordon near Mt Isa
- AXF flow meters
- EJX transmitters and analyser products

Hillgrove Resources, Kanmantoo mine, located west of Adelaide in South Australia
- AXF flow meters
- EJX transmitters and analyser products

Snowpeak Mining
- Several mines located in North Queensland
- AXF flow meters
- EJX transmitters and analyser products

Oz Minerals Prominent Hill mine, located in north west South Australia
- AXF flow meters
- EJX transmitters and analyser products

BHP Billiton Olympic Dam mine, located in north west South Australia
- AXF flow meters
- EJX transmitters and analyser products

Gold

Yokogawa Instrument Users

Gold Field’s Agnew mine, Goldfields region of WA
- AXF flow meters

AngloGold Ashanti’s Sunrise Dam, Goldfields region of WA
- EJX transmitters and analyser products

Alacer’s Avoca Mine, Goldfields region of WA
- analyser products

Evolution Mining’s Ballarat Gold mine, Victoria
- AXF flow meters and Analyser products

Barrick’s Dalziol, Lawlers, Plutonic and Cowal Mines, WA & NSW
- AXF flow meters, EJX transmitters and analyser products

Newcrest’s Cadia Valley mine, NSW
- AXF flow meters, EJX transmitters and analyser products

Resolute’s Carpentaria Gold mine, northern NSW
- analyser products

Norseman Gold’s Central Norseman, Goldfields region of WA
- AXF flow meters, EJX transmitters and analyser products

Crocodile Gold’s Stawell Gold mine, Victoria
- AXF flow meters, EJX transmitters and analyser products

Iron Ore

Yokogawa Instrument Users

Citic Pacific Mining, Western Australia
- Yokogawa EJX pressure transmitters and analytical products

Rio Tinto, Pilbara Iron Company, Western Australia
- Yokogawa analytical products, DY vortex flow meters and EJX pressure transmitters

Arrium, South Australia
- Yokogawa analytical products, AXF flow meters and EJX pressure transmitters
Yokogawa in the Smelting and Refining Industry

Outotec’s Ausmelt TLS smelting processes incorporating Yokogawa Centum DCS control systems

Location of smelters

- Daye non-ferrous metals - China
- Wuxin Copper - China
- HCHM Hulunbeier - China
- Huludao copper - China
- Yunnan Tin copper - China
- Hindustan Zinc Chanderiya - India
- Karabash copper - Russia
- Ongopolo Copper - Namibia

Smelters & Refineries

Alumina smelters

- Alcoa Alcoa Port Henry, Victoria
  - uses AXF flow meters, EJX pressure transmitters and analytical products
- Alcoa Pinjarra, Western Australia
  - uses AXF flow meters, EJX pressure transmitters and analytical products
- Rio Tinto’s Queensland Alumina, Queensland
  - uses AXF flow meters, EJX pressure transmitters and analytical products
- Pacific Aluminium’s Boyne Smelter, Queensland
  - uses DY flow meters, EJX pressure transmitters and analytical products
- BHP Billiton Worsley Alumina, Western Australia
  - uses DY flow meters, EJX pressure transmitters and analytical products
- Tomago Smelting, NSW
  - uses DY flow meters, EJX pressure transmitters and analytical products
- Pacific Aluminium Tomago, NSW
  - uses AXF flow meters and EJX pressure transmitters
- Pacific Aluminium Gove, Northern Territory
  - Yokogawa analytical products, AXF flow meters and EJX pressure transmitters

Zinc Smelters

- Sun Metals, Queensland
  - uses DY flow meters, EJX pressure transmitters and analytical products
- Nyrstar Hobart, Tasmania
  - uses AXF flow meters and EJX pressure transmitters
- Nyrstar Port Pirie, South Australia
  - uses AXF flow meters, EJX pressure transmitters and analytical products
Mining Companies Using Yokogawa Products

Yokogawa delivers a total automation solution, covering the entire lifecycle of projects, as your automation partner. This proven method brings experience, engineering, technology, safety, and lifecycle support, while at the same time reducing risk and lowering overall costs.

Yokogawa’s Project Execution Team applies excellent communications with all parties including the Contractor, End user, Licensor, etc. to ensure successful project delivery. Yokogawa has the advantage of a local and global knowledge base and resourcing for project execution.

Yokogawa’s Engineering capabilities include:
- Green Field Projects Execution
- Main Automation Contractor “MAC”
- Front End Engineering Design “FEED”
- Functional Safety Management
- Systems Migration / Replacement

Combining full understanding of customer requirements with professional management of multiple vendors, Yokogawa is strongly positioned to deliver the set objectives of any project.
Accredited Training Courses

The following courses are offered by Yokogawa:

a) Systems Training:
   - Distributed Control System (DCS) Training courses: CENTUM VP Essentials, Engineering and Maintenance
   - Systems Advanced Training: Prosafe RS Engineering, Profinet and Exaquantum
   - Systems and Solution Software Training: Foundation Fieldbus
   - Plant Resource Management and Consolidated Alarm Management Software

b) Field Instrumentation Training:
   - There are three distinct levels of Field Instrumentation Training identified to accommodate engineers, technologists, technicians, artisans and apprentices in the Field of Process Instrumentation and Control.
     - Measuring Principles Product Training (Theoretical Explanation)
     - Advanced Product Training (Hands-on Training)
     - Customised Product Training (Hands-on Training)
   - These courses are practical and outcome-based, driven on real plant simulators. On successful completion of the theoretical and practical assessments, participants will be deemed competent and issued a Certificate of Competence. Training is offered at the Yokogawa South Africa Head Office, KwaZulu Natal office or at customer sites in the African Anglophone Region.

Yokogawa prides itself in providing customer centric solutions. We partner with our customers to find optimum outcomes for your process plant and provide holistic and tailored service solutions that:
- Ensure minimum production losses and predictable operational costs;
- Preserve assets;
- Sustain operational performance;
- Maximise profits.

Our reputation of uncompromising reliability in providing maintenance and support products is evident with the Yokogawa Lifecycle Agreement (LCA). This demonstrates our commitment to prolonging the satisfaction of ownership and providing a range of options on new and existing systems.

Yokogawa’s life cycle support services include the following:
- Preliminary Assessment Work prior to executing an agreed technical proposal
- Emergency Services offering access to the Yokogawa regional and global Response Centre
- Telephone consultation regarding maintenance and resolution of operational issues
- Remote maintenance services to remotely operate and diagnose problems

Periodic Maintenance
- Shutdown Maintenance
- Software/Hardware Support Services
- Parts Holding
- Bench Repair
- Calibration
- Reports on periodic and shutdown maintenance service support activities
- Field Instrumentation and Control Systems Training offered at the customer’s site or Yokogawa offices
- Remote Backup

Africa is experiencing a severe shortage of well qualified, competent and experienced people in the areas of control and field instrumentation. Technical training provides a platform for companies to improve the skill levels in their organisations. Well trained employees will be able to pre-empt plant systems outages and therefore save time and money. Yokogawa provides flexible training courses in the areas of control and field instrumentation, in order for participants to understand the technologies both in theory and practice.

The Learning Material for Field Instrumentation and Systems (Control) Training has been accredited by Society for Automation, Instrumentation, Measurement and Control (SAIMC) to comply with the Engineering Council of South Africa’s (ECSA) guidelines for Professional Registered people to earn Continuous Professional Development (CPD) points.

The Field Instrumentation Learning Material is also internationally accredited by the Institute of Measurement and Control (IMC) in the UK. Yokogawa’s Facilitators are registered as Assessors, Moderators and Trainers at the Energy and Water Sector Education and Training Authority (EWSETA).