



OPENPlant Control® is an automation solution designed for the mining and mineral processing industry. With over 23 years of experience ESP has created an open architecture control solution built upon industry standards. ESP is a leading control systems integrator and provides automation systems, packaged motor control and power solutions to mining operations throughout the U.S.

OPENPlant Control® is a standardized automation solution that incorporates: material handling, crusher optimization, grinding mills, finishing mills, wet plant, dryers, kilns, screening, fines recovery, blending, truck and rail loadout.

OPENPlant Control® uses standard off-the-shelf hardware and software to create a customizable automation and data management.

Designed using engineering and programming standards OPENPlant Control® utilizes a modular concept that is easily upgradeable as new features and technologies become available. This insures that your plant control system will always remain on the leading edge. The standard system utilizes Wonderware InTouch as the Human Machine Interface (HMI). The PLC system is based on Allen Bradley's ControlLogix platform of products. Each control system is customized to meet the requirements of each individual plant.

OPENPlant Control® systems include all of the engineering, system hardware and software needed to automate your operation:

### Engineering

- PLC and HMI Programming
- Database and Report Configuration
- Commissioning
- Support and Training
- Complete Documentation Package

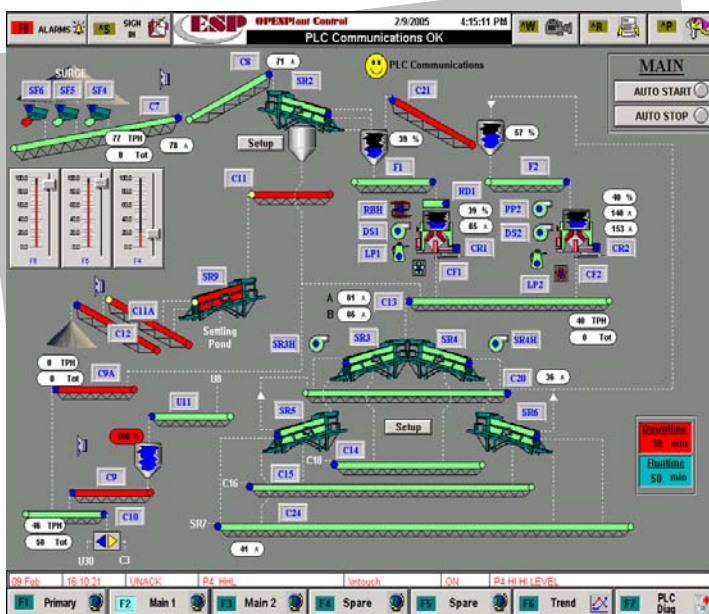
### Hardware

- PLC(s) pre-wired and assembled in NEMA 12 enclosures
- PCs and Network Equipment

### Software

- HMI Software Licenses
- Microsoft SQL Database
- SQL Reporting Services

ESP engineers are MSHA trained and certified for above ground and underground mining operations.



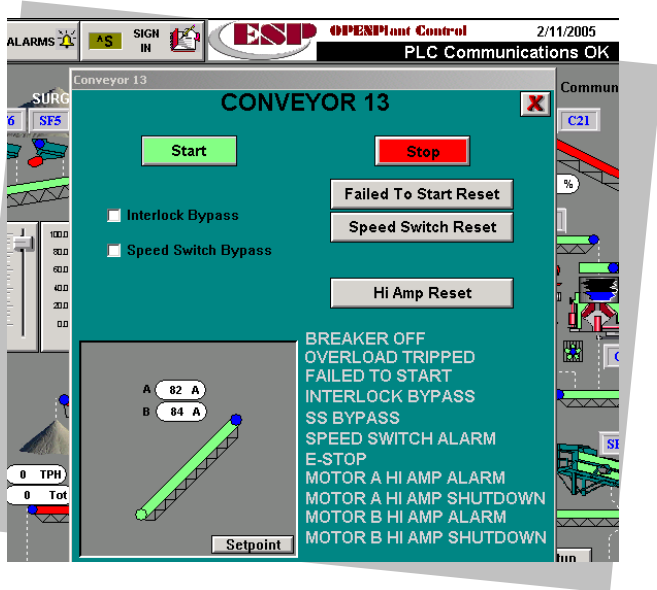


# OPENPlant Control®

## Mining and Mineral Processing Automation

### OPENPlant Control®

**User-Friendly HMI:** Operators with few or no computer skills can be trained to use the HMI effectively in just a few hours. We use two to three overview screens, depending on the plant, to monitor each area and pop-up screens for control and detailed information on each device.



**Real-Time and Historical Trending:** Key process parameters (real-time or historical) such as motor amps, crusher bowl levels and lube oil temperatures can be selected for trending by the operator on the same chart. Six pre-configured trends are provided.

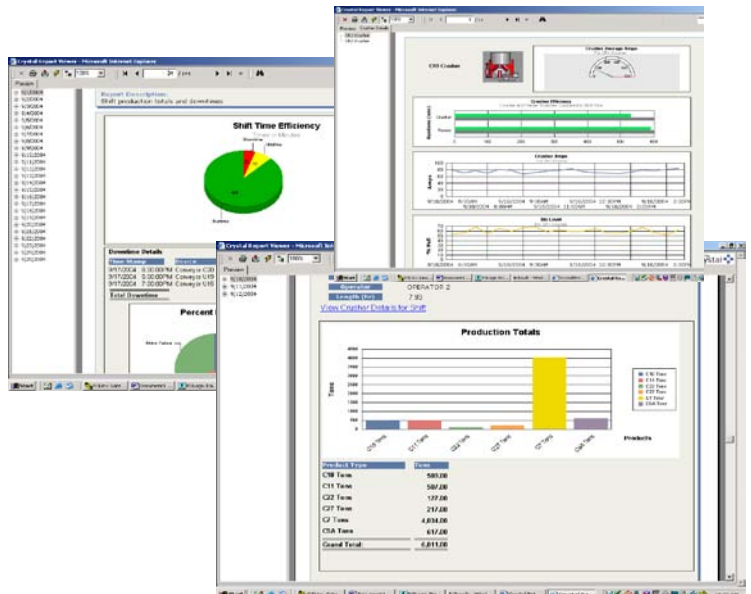
**Downtime/Idle Log:** Automatically prompts the operator to log the reason for downtime or idle time. Logging downtime has never been easier or more accurate.

**Key Performance Indicators (KPI):** The KPI Dashboard display provides a quick overview of the plant's performance. With just a glance you can review the plant's production rate, downtime and product yields.

**Power Monitoring:** Monitors power consumption per plant area. Tracks peak demand and power factor. Provides a method to monitor and avoid setting new monthly and yearly peak demands.

**Diagnostics:** Control system diagnostic information is displayed to provide detailed troubleshooting assistance. This in-depth and thorough diagnostics and alarming will help the maintenance technicians identify and correct problems quickly to improve uptime performance.

**Web Reports:** The reporting module offers Production, Downtime, KPI, Power Management, Equipment Runtimes and Executive Summary reports and is viewable with a standard web browser from any PC on the control system network. No client access licenses are required.



**Security:** Built-in security provides password levels that enable changes to control parameters such as blend recipes, crusher loop tuning and access to the operating system.

**Remote Engineering Support (RES):** ESP can provide programming and troubleshooting support via a VPN secure connection.

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