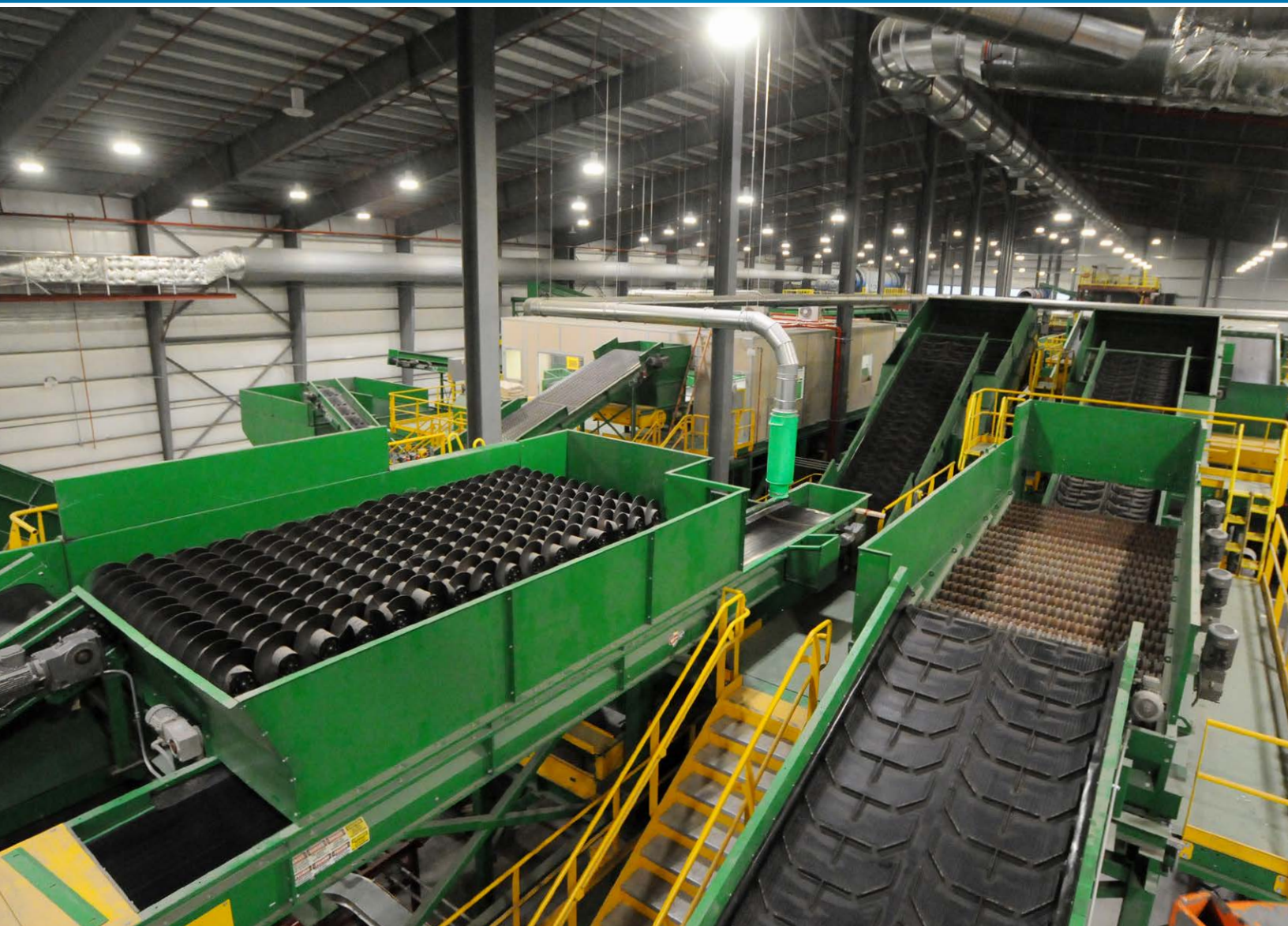




***Advanced MRF***

*Controls, Automation & Data Acquisition Solutions*



*Advanced MRF is a division of CP Group*





# ***Put CP Group & Advanced MRF to Work for You***

CP Group and Advanced MRF work together at our headquarters in San Diego, California to deliver custom system controls and SCADA capabilities for turn-key sort systems.

We are certified in designing and building control systems and Supervisory Control and Data Acquisition (SCADA) systems using both Siemens and Allen-Bradley automation products and software. We are C-10 Certified Electrical Contractors, which allows us to offer turn-key solutions with the ability to perform the electrical installation.

Get accurate data acquisition and system-wide control of your operation with CP Group and Advanced MRF.

- ▶ **Advanced MRF is the CP Group in-house electrical controls departments**
- ▶ **Seamless systems and machine integration**
- ▶ **Top-of-the-line base system controls**
- ▶ **Supervisory Control and Data Acquisition (SCADA)**
- ▶ **Real-time and historical data reporting systems**





# AMRF Industrial Control Panels

Advanced MRF control panels are built to spec for each project. We are a certified UL and cUL, UL508A fabricator, so all our panels are compliant with UL and cUL safety standards and NFP70E safety codes.

## Variable Frequency Drive (VFD)

- Separate power and control modules reduces inventories
- Allows faster data transfer
- Provide system with key information
- Easy troubleshooting, reducing downtime
- Eliminates need to manually enter parameters to replace a new unit (with Allen-Bradley)
- Plug and play drive configuration option (with Allen-Bradley)

## Programmable Logic Controller (PLC)

- Provides early warnings on the HMI to the operator
- Resets motor overloads without having to enter control panel
- Modular design allows for easy replacement and expansion
- Enables remote accessibility for added support
- Distributed IO
- Siemens or Allen-Bradley PLCs available
- Dedicated PLC for safety measures, compliant with SIL 2 safety standards

## Human Machine Interface (HMI)

- Durable touchscreen
- Memory card back up option for easy replacement
- Uses custom graphics and diagnostic tools
- Remote access for added support
- Durable and reliable
- Wireless HMI tablets available for added efficiency
  - Control entire plant from mobile operator tablet
  - Identify e-stop location from operator tablet



Programmable Logic Controller



UL508A panels



Variable Frequency Drives

# Advanced MRF Base Controls Package

Advanced MRF offers a base controls package that delivers intuitive user interface, time-saving recipe presets, and real-time data to MRF operators.

## Hardware:

- Siemens or Allen-Bradley software platforms
  - Cabinets are UL and cUL, UL508A certified
- Human Machine Interface (HMI)
- Wireless touch screen “tablet”
- HMI operating manual
- Electrical schematics

## Features:

- Auto-start capability
- Motor set point controls
- Speed recipes
- Screen adjustments
- E-Stop zone identification
- System alarms in real-time
- System alarms with historical data
- Independent control of baling line and bunker/silo system where applicable



Human Machine Interface



Powerful controls for MRFs



Advanced software platforms

## Service & Maintenance

*Advanced MRF has a dedicated team of experienced personnel to provide customer support for our products and services throughout the lifespan of your system.*

### Retrofits and Installations

- Integrate CP equipment into 3rd party systems
- Interface third party equipment
- E-stop software upgrades available
- Software/hardware system installations and additions available

### Service

- Hands-on diagnostics and troubleshooting at the field level
- Remote support for PLC, HMI and VFD diagnostics and troubleshooting
- Phone support available any time

### Maintenance Parts

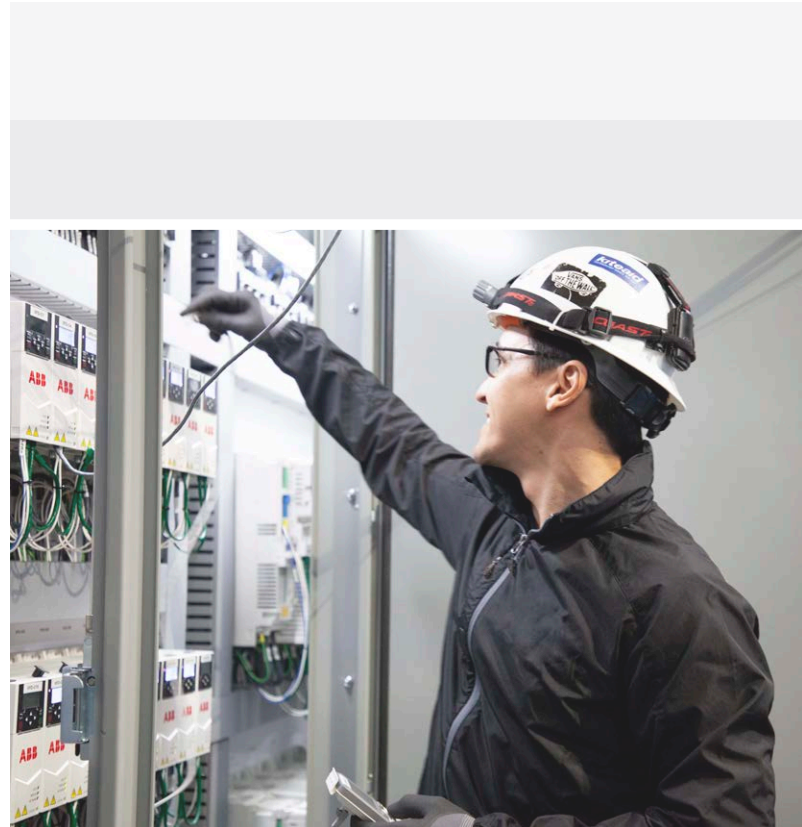
- Spare and replacement parts available when you need them

### Customized Maintenance Packages

- Electrical Audits
- Cleaning and repairs
- Special parts pricing

### Training Packages

- Electrical operation
- Electrical field wiring and panel maintenance
- VFD training



### CP Group Electrical Audits

Electrical controls are a key component to maximizing the efficiency of your MRF. During a CP Group Electrical Audit, our experienced electrical technicians perform a detailed examination of your control system and identify any problem areas. After our experts have thoroughly inspected your MRF, you receive a written evaluation with recommendations and solutions for each area of concern.



# CP Supervisory Control and Data Acquisition (SCADA)

Data collected by CP SCADA provides comprehensive snapshot of a recycling system. Track inbound and outbound material volumes, downtime events, bale counts by commodity, and other key data points. CP SCADA can also alert staff to over-amp draws, potential motor faults, e-stoppage locations, and loader operator feed inconsistencies.

## CP SCADA Base Package

The following are the core components of the CP SCADA base package:

- Runtime and availability reports
- Dashboards via desktop web access
- Monitor motor amp values
- Trending/historical reports
- Downtime event logs and reports

## CP SCADA Add-On Items

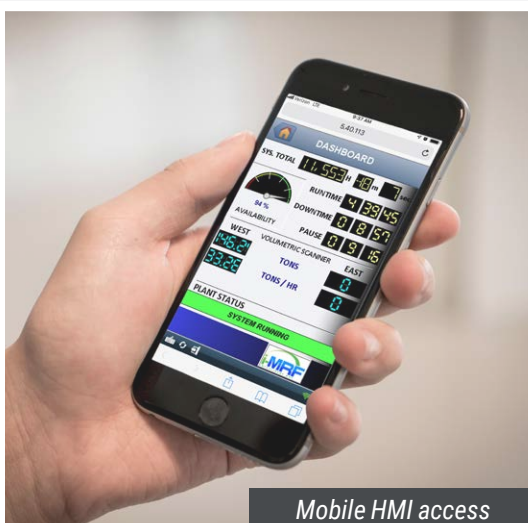
- Volumetric scanner
- Preventative maintenance package
- MSS integration
- Baler and compactor integration
- Mobile access

## CP SCADA Advantages

- Real-time production clocks
- Automatically log motor fault causes
- Identify and record downtime events and causes
- Create and record availability reports (downtime versus runtime)
- Track and prevent black-belt lost production
- View material characterizations from your optical sorter
- Record inbound and outbound volume
- Integrate baler and compactor production
- View trending and historical reports
- Create custom preventative maintenance packages
- Monitor motor amp usage and motor performance
- Access data remotely through a mobile device or computer



MSS optical sorter integration



Mobile HMI access



Advanced data reports



[www.cpgrp.com](http://www.cpgrp.com)