R|E|N|A|.

IDX Flexware
Process Control Software
SECS/GEM Compatible

Superior Process Control Software
For Wet Processing, Chemical Delivery and Drying Solutions

RENA NA's proprietary IDX Flexware Control Automation Software is extremely flexible and ideal for process control, yield, productivity, uptime and maintenance. IDX's open-architecture is outstanding for both process and maintenance productivity.

iDX
Flexware
PROCESS CONTROL SOFTWARE

Versatile, Flexible & Configurable

· Multiple recipes multiple processes simultaneously
· Unlimited user classes and permissions
· IDX built-in screen editor
· Expands with tool modifications
· Easy synchronization to upstream or downstream machines or processes
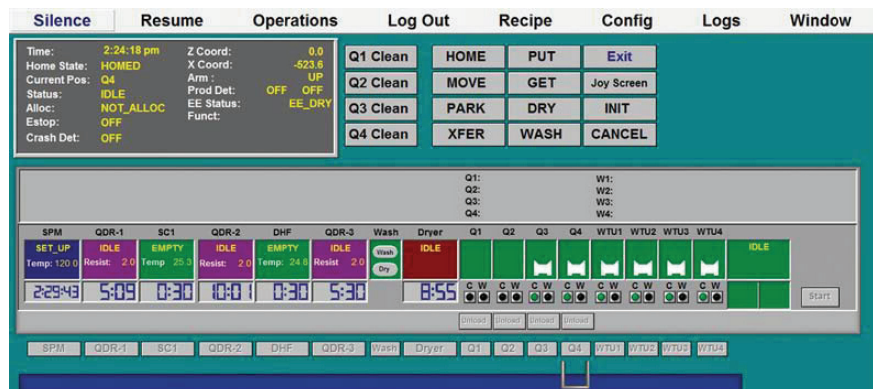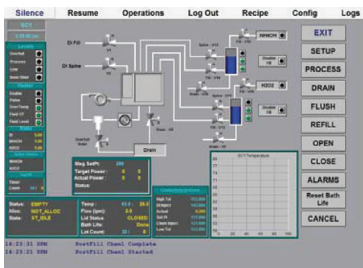
Improve Performance and Yield

· Improve host communication
· Improve performance
· Improve troubleshooting with data-logging
· Real-time monitoring
· Improve controls

SECS/GEM Compliant
Easy User Interface

· Highly configurable operator interface
· Intuitive graphical display
· Interactive configuration editor
· Touch-screen HMI
· Versatile recipe control
· Fast troubleshooting

Designed for: Productivity   ·   Safety   ·   Reliability   ·   Configurability   ·   Low Cost   ·   Maintenance Friendly

IDX Control Automation Software is available with all new RENA NA, most RENA NA Chemical Delivery Systems, and it can be used to upgrade other manufacturer's wet process systems.

IDX Flexware Process Control Software

Open Architecture Design

· Uses standard C++ scripts to control devices
· Easily configured
· Extendable via additional DLL
· Each script runs separate task
· Watchdog program starts and monitors all scripts
· I/O monitor for manual operation and maintenance

Off the Shelf Equipment

· Standard PC
· Running Windows 7
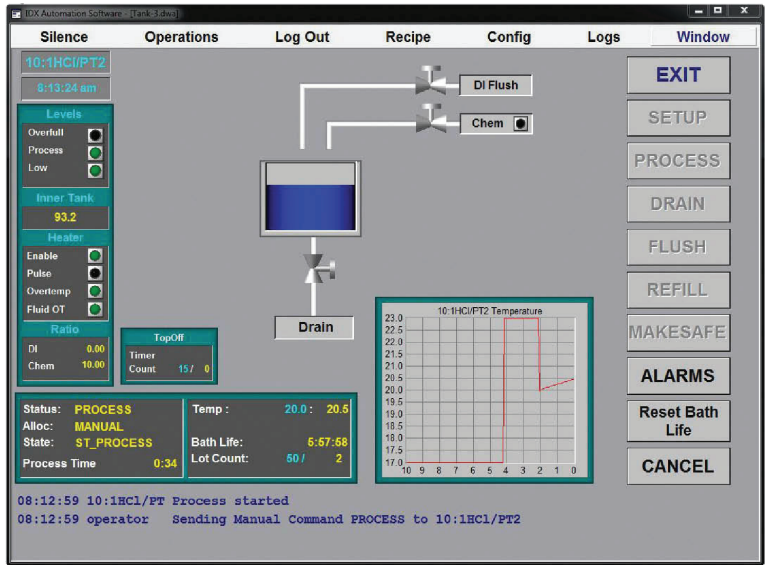· 13, 15 or 17" HMI touch-screen
· Barcode reader compatible

SECS/GEM Host Communications

· HSMS compatible
· SEC II messaging capabilities for:
  · Variable and status data collection
  · Alarm management
  · Remote control
  · Equipment constants
  · Process program management
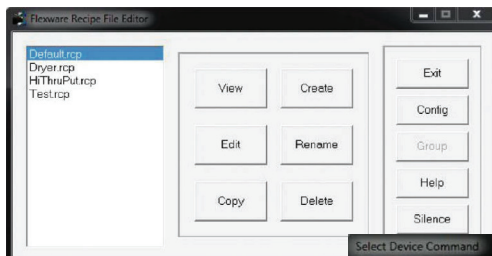 · Event notification and error messages
  · Clock

Real Time Display with Data Graphing
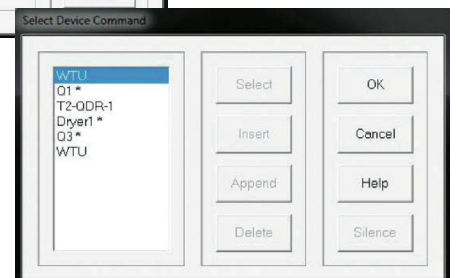
Easy Recipe Development and Management

· Easy to create, configure, copy and edit
· User permissions and password protection
· Offline recipe editor
· Create recipe templates
· Recipe back-up utility
· Password protected users
· Host recipe download
· Maintenance operation modes

Data & Event Logging:

· Key process variables tracked and stored
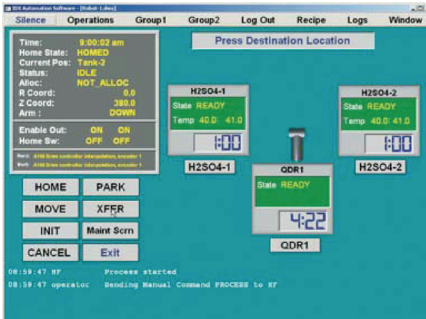· Conductivity
· Resistivity
· Temperature
· Flow
· Process Time

SECS/GEM Host Interface

GEM Configuration Dialog

Multiple User Recipes

Recipe Sequence

IDX Flexware Process Control Software

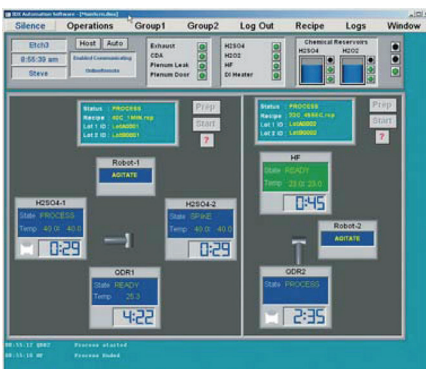# Optimal for Operational Efficiency

Easy system operation from main screen

Outstanding Safety & Reliability

Field Proven Performance

· Robust and reliable
· More than 400 installations
· Proven use in hundreds of applications across many industries and manufacturers
· Software monitors for unsafe conditions
· Human safety, product safety and equipment safety are protected with software and hardware interlocks
· Watchdog program starts all scripts and keeps them running
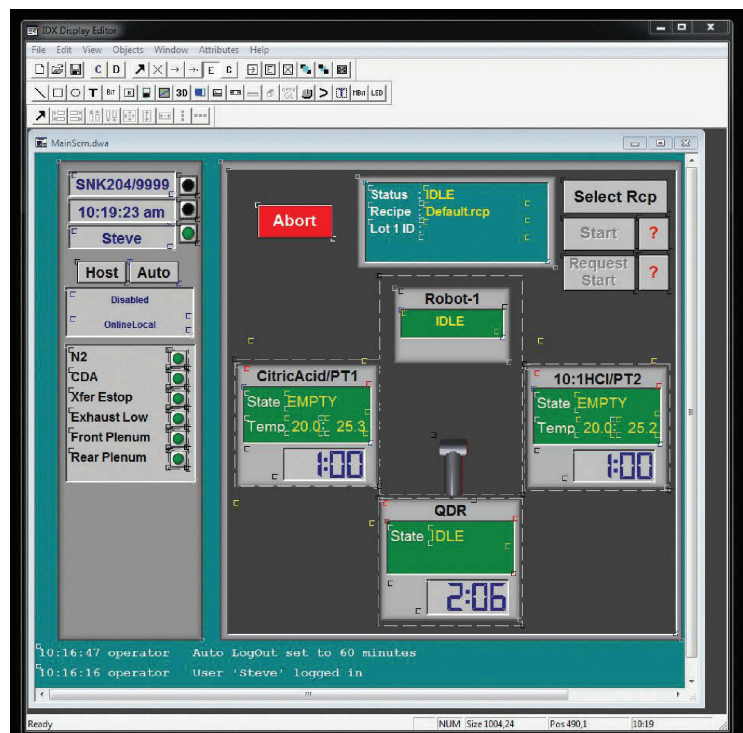· Visual and audible alarms advanced error handling maintenance mode

Designed for Productivity

IDX Flexware software features a scheduler that supports multiple robots (or other devices) and multiple cassettes, each of which can use a different processing recipe.

· Scheduler handles multiple robots and cassettes with multiple
· recipes simultaneously
· SECS/GEM compliant RS232 or HSMS driver
· Lot tracking and production reporting
· Data graphing with option that can be stored in a text file for import to spread sheet ·
· Compatible with barcode readers for lot ID or recipe selection
· Advanced process controls
· Remote access compatible
· Simple error recovery via resume "button"

Easy-to-Use, Configurable Display

· Intuitive graphical display with color touch-screen
· Unlimited user/permission levels with password protection (authorization levels highly configurable)
· Real time graphics and display

IDX Robot Screen

IDX Flexware
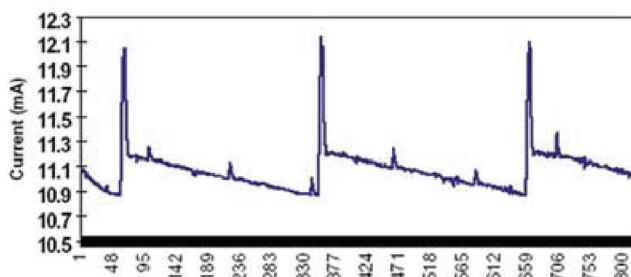## Leader in Advanced Process Control

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RENA NA's Advanced Process Controls provide the necessary stability of process conditions through closed loop monitoring/control using software recording for all key process variables. The result is a system capable of advanced cleaning and process monitoring capabilities required for critical process steps.
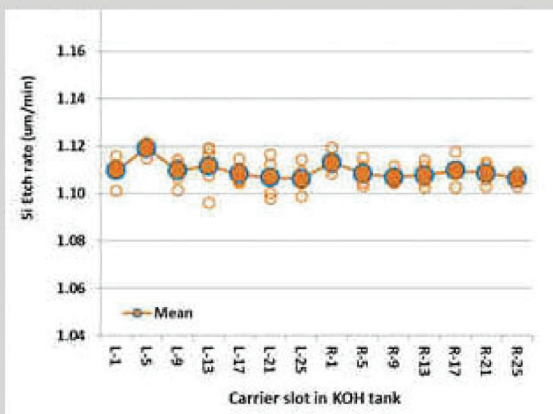
IDX Flexware
PROCESS CONTROL SOFTWARE

Advanced Process Controls

Stability of process to increase yields

· Closed loop monitoring
· Closed loop control
· Software recording/logging

WIW, WTW & LTL Uniformity < 0.5 %
Si Etch Rate (um/min)

Built-In Concentration Controls & Monitoring

· Improve process performance
· Extend tank life
· Reduce chemical consumption
· Reduce chemical waste generated
· Reduce cost per pattern

DI Water Injection in Semi-Aqueous Solvents

· Improve process performance
· Reduce solvent usage
· Reduce solvent waste
· Improve up-time of tool

Flow Rate Monitoring

· Monitor recirculation flows
· Redundant temperature monitoring ensures critical temperature control
· Monitor spike volumes and conformation of spike activity

Analog Controls

· Analog sensors provide software controlled, ratio creation in-tank blending capabilities
· Control DI water inject
· Control temperature, recirculation flow, spiking volume
· Conductivity, resistivity, temperature and flow data are captured and stored