

# REFINING

PROVEN EXPERIENCE. PROVEN RESULTS.



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UNPLANNED PROCESS SHUTDOWNS CAN COST A REFINERY IN EXCESS OF SEVEN FIGURES PER USD. AS DISTURBANCES IN YOUR PROCESS HAPPEN, IT'S IMPORTANT THAT YOU STABILIZE YOUR OPERATION AS QUICKLY AS POSSIBLE. CCC'S ADVANCED ALGORITHMS HAVE BEEN REFINED THROUGH YEARS OF APPLICATION – SPECIFIC EXPERIENCE. THESE ALGORITHMS HELP YOU TO MINIMIZE PROCESS UPSETS AND QUICKLY RETURN YOUR OPERATION BACK TO NORMAL IN A SAFE AND CONTROLLED MANNER.



One day of lost revenue costs a typical 200,000 bbl/d refinery

**\$1,200,000**  
TO  
**\$2,000,000**

**With over 800 refining installations** around the globe and over 40 years of experience developing control solutions, CCC has a proven track record of helping our customers achieve greater process availability, increased production, and guaranteed energy savings.



## Save Energy

CCC helps you to match your energy consumption with your true production demands.

A CCC control system adjusts compressor performance based on production requirements safely and reliably. If production decreases, the CCC system reduces compressor power consumption by adjusting throughput with suction throttle valves, guide vane modulation, or compressor rotational speed — all while providing reliable antisurge control and protection. Customers can see 1–7% reduction in energy costs. Today, our experience and process expertise allows you to secure your investment with an unparalleled Energy Savings Guarantee.

## Keep your plant online with reliable protection & control

- Avoid nuisance shutdowns with precise, accurate, fast and **proven control strategies**
- Assure the integrity of your **safety instrumented systems** with iDefine®
- Reliable start-ups with **improved automated sequences**
- Prevent shutdowns with **online condition monitoring** systems in your PI historian
- Specialized & **fully integrated valve to controller** packages to protect your process
- Effective **online protection & management** of reciprocating compressors

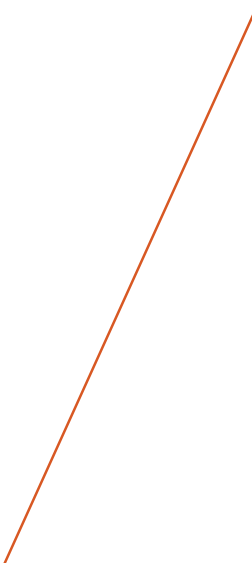
## Simplify your projects with flange to flange execution & services

- **DCS seamless integration** with native display and functionality
- On time and **error-free commissioning** backed by 180+ turbomachinery experts
- Reduce execution time up to 80% with Trinity **project automation software**
- **Eliminate rework** and costly delays with streamlined PLC logic migrations
- Steam turbine **mechanical retrofits** for improved automated control



## Increase production to get more from your assets

- Complete **system audits** that deliver energy savings
- Expand available compressor **operating envelope**
- Identify & manage turbomachinery **performance degradation** to avoid costly operational losses
- Increase process throughput with precise **pressure & flow control**
- **Automatically adapt** to gas composition changes
- Increase compressor/blower throughput and reduce recycle requirements with advanced **antisurge control**



EXPERTISE BEYOND CONTROLS™

