



**AUTOMATION**  
**ELECTRICAL AND**  
**CONTROLS ENGINEERING**  
**SERVICES AND SOLUTIONS PROVIDED**

**AUTOMATION SOLUTIONS**

ANDRITZ works with your team to design, supply, commission, and support complete package solutions. We draw on our patented technologies and skills to add value to your projects and help you release your full potential.

**ANDRITZ**

**ENGINEERED SUCCESS**

# Release your full potential

## FEASIBILITY STUDIES

- E&I conceptual design
- Budgetary estimates

## PROCESS SIMULATION WITH IDEAS

- Mass and energy balance
- P&ID design validation
- Contingency reduction
- Static and dynamic modeling
- Control system checkout

## PRELIMINARY ENGINEERING

- Project scope definition
- Power system development
- Electrical utility connections
- Process control system architecture
- Plant network architecture
- Material and contractor bid document preparation
- Schedule preparation
- Design and material specifications
- Construction specifications
- Budgetary estimates

## ELECTRICAL ENGINEERING

- Turnkey electrical distribution systems
- Switchgear, PDCs, MCCs, and control panels
- E-Houses
- Overhead line and pole design
- SCADA systems
- Power demand controllers
- Energy management systems

## POWER SYSTEM STUDY

- Transient stability
- Protection coordination, short-circuit, load flow, and reliability
- Arc flash analysis and mitigation
- Harmonic analysis
- Power factor correction
- Load interconnection
- Electrical energy audit

## POWER SYSTEMS ENGINEERING

- Protection system design and upgrades
- Capacitor and harmonic filter banks
- High voltage substation design
- Tap changer controls
- Load shedding systems
- Grounding systems
- Variable speed and sectional drive systems
- Large motor applications

## POWER GENERATION

- Generator specification and design
- AVR/Exciter control systems
- Governor control systems
- Utility-interconnection studies

## PROCESS CONTROL

- Process control system design
- Process control strategy development
- Control narrative development
- Process control system audits
- Control system migrations and upgrades

- Process optimization
- Operator interface graphics design
- Process and control drawings
- Piping and instrumentation drawings
- Control room design
- Combustion controls (safety systems)

## INSTRUMENTATION ENGINEERING

- Control loop tuning
- Instrument specifications
- Pneumatic to electronic instrument conversions

## COMPUTER SYSTEMS

- Management information systems
- Industrial networks
- Custom interface software between multivendor equipment
- Custom database software
- Barcode systems integration
- Servicing of existing software systems

## ADVANCED PROCESS CONTROL

- Control strategy development
- Adaptive predictive control strategies
- BrainWave
- Expert systems
- ACE (Advanced Control Expert)

## OPERATOR TRAINING

- Simulation-based training solutions
- Web-based training solutions

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