



# Digital Plant Solution Geothermal Asset

The logo for OptiRamp, featuring a stylized white mountain peak above the company name in a blue, sans-serif font.

**OptiRamp**<sup>®</sup>

# Challenges & Overview



Geothermal assets faces day-to-day operational challenges, including:

- Ensuring a reliable steam supply system
- Managing brine and non-condensable gasses
- Minimizing decline rate
- De-bottlenecking pipelines
- Anticipating weather and climate change
- Data standardizing across department

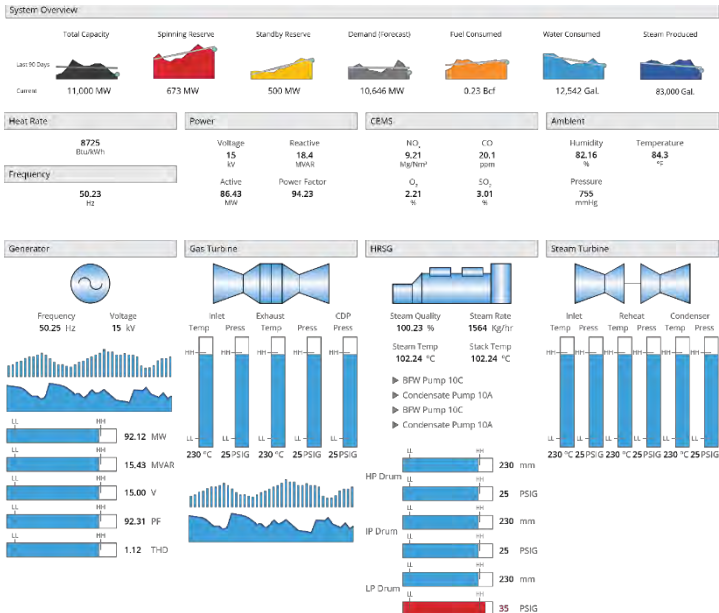
The *OptiRamp* Digital Plant solution helps you overcome these challenges by:

- Monitoring and optimizing resources from well head to generators
- Real time asset and equipment performance measures and calculations
- Managing by exception
- Responsive problem identification and response
- Centralizing people and operations to make faster & better decisions
- Making losses visible and mitigating early

# Total Value Stream



The *OptiRamp* Digital Plant solution spans the entire value stream, from subsurface steam well production, headers, pipelines, separators, interfaces, steam turbine and generators, coolers and ejectors.



# Solution Overview



*OptiRamp* Digital Plant solution offers an accurate representation and feature of:

- Both dry and wet steam production wells
- Pipeline, with NPS and Schedule selection, thermal properties of bare, insulated, buried, or underwater
- Common field measurement of pressure, mass flow (single phase) and temperature
- Well allocation on two phase well pad
- Comparison with steam forecast, and field wide and particular well decline rate
- Real time Steam quality calculation
- Control valves with PID control and Rock Muffler control limit set points
- Steam Turbine and Electric Generator with modifier according to equipment datasheet
- Binary system *\*coming soon 2023*

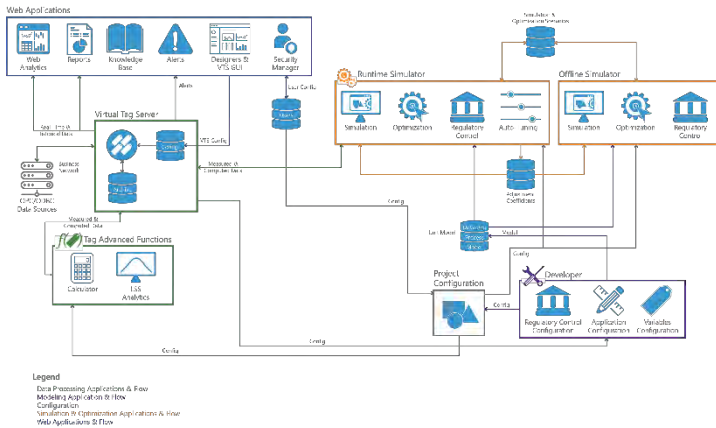


# Data Foundation



An information may be derived from multiple data sources and data types: field measurement, offline test, calculation, simulation and/or user input

Integration at the data level creates a consistent view and reduces misinterpreted symptoms

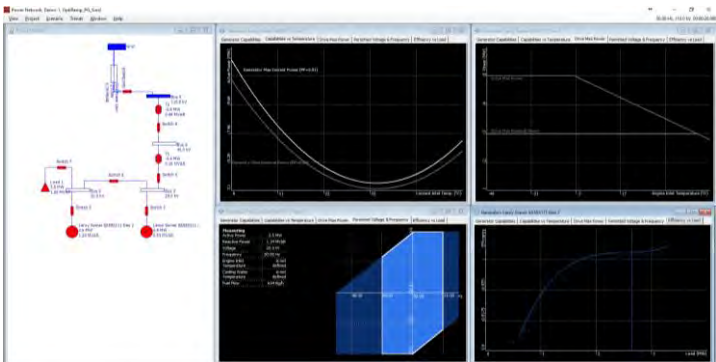


Data factory and integration inside the platform

# Digital Twin



*OptiRamp* Digital Plant provides automatic tuning based on the latest artificial intelligence technology to ensure equipment model and overall process simulation reflect as close as possible to actual condition or “twinning”. A tuned system will have less than 1% error



Example of Generator model with electrical properties

# OptiRamp Digital Plant Solutions



S&C offers the following additional solutions that may be used in conjunction with the *OptiRamp* Digital Plant solution to solve your power system challenges:

- Automatic Generation Control (AGC)
- Pipeline Management
- Grid Optimization
- Smart Load Shedding
- Turbomachinery Control



# Detail Specification

	Data Foundation (VTS + WA)	Digital Twin (RTST)
Number of Data	Unlimited	Unlimited
Number of User	Unlimited, more than 100 concurrent	1 online per server
User Management	Yes	Windows user manager
Features	Web based analytics and developer, Notification, Reporting, Log book, Knowledge Base	Real Time optimization, auto-tuning, diagnostics module, Online RT Module, Offline Simulation
Source of Record	OPC, SCADA, MSSQL, MySQL, MS Access, CSV, MariaDB, Oracle, Historian	Integrated with VTS
Types of Data	Numeric, String, Discrete	
Area of Application	Oil and Gas, Power Plant, Power Distribution, Pipeline Network, Refinery, Steam and Water Management, Energy Management	
Specific Geothermal Application	VTS Library template	Dry and Wet Steam Reservoir, 2 Phase Separator/Vessel, Steam Turbine and Generator
License	SaaS (Cloud) / Annual / Perpetual	Perpetual per server
Service Level Agreement (SLA)	Integrated Service Level Agreement covers major and minor upgrade, patches and fixes and remote support	
Technical Support	Worldwide support hub: USA, Russia, Indonesia	





For more information about *OptiRamp* Solutions, contact one of our representatives. For a complete listing of our worldwide locations, visit our website at [www.stctrl.com](http://www.stctrl.com)

Indonesia Operations office:

PT Alpha Sann Teknika Data (Sann)  
Prudential Centre, 22<sup>nd</sup> Fl., Jl. Raya Casablanca Kav. 88  
Jakarta Selatan, 12870, Indonesia  
Email: [operations@sann-energi.com](mailto:operations@sann-energi.com)

4401 Westown Parkway, Suite 124  
West Des Moines, IA 50266 USA  
Telephone: 1.515.267.8700  
[www.stctrl.com](http://www.stctrl.com)



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Rev. 9-12/2023