Remote Diagnostic Services for all Siemens Turbo Compressors

Siemens Energy is a world leader in industrial compressors, gas and steam turbines for power generation and mechanical drive applications. As a new addition to its comprehensive portfolio of service products, Siemens is pleased to offer its Remote Diagnostic Services (RDS), using the STA-RMS platform (Siemens Turbomachinery Applications – Remote Monitoring System), to help optimize your asset management.

The STA-RMS platform is tailor made to help improve the remote functionality of all Siemens units, and is the only OEM approved system commercially available. This system can either be fitted on individual units or on the complete power train including driven machines for either power generation or mechanical drive applications. Siemens Oil & Gas and Industrial Applications have over 350 units connected to STA-RMS with over 10 years of experience in the provision of remote services.

Asset Management
Remote Diagnostic Services can assist you with the professional management of your plant’s assets to help you meet your investment goals for your benefits.

Siemens Remote Diagnostic Services are designed to help you maximize your unit’s performance, and are tailored to your specific machine type.

Online Troubleshooting
Based on its “common Remote Service Platform (cRSP)”, Siemens is – dependent on customer’s contract – able to offer secure remote support and advice via telephone with optional real time intervention after customer release, provided by Siemens’ 24/7 helpdesk.

Remote Diagnostic Service

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Service Consulting
Our service consulting teams can support your plant and process management to help achieve an overall optimization of your rotating equipment and processes by the thorough analysis of machinery data out of our STA-RMS platform.

Remote Services for all Siemens Turbo Compressors
Siemens can provide various levels of Remote Services, from basic reporting and support (office hours), to full 24/7 service plus comprehensive thermodynamic and rotordynamic analysis of your asset.

Each selected service level can be tailored to suit your specific requirements.

STA-RMS utilizes the experience that Siemens as the OEM has accumulated from its operating fleet. This, coupled with the extensive knowledge of both our field and service engineering teams, gives us the unique capability to enhance the specific requirements of your Oil & Gas, Industrial or Power Generation application.

Remote Services on Siemens Turbo Compressors can be offered both as part of a Long Term Program (LTP) or as a stand-alone Service Support Agreement.

Siemens 24/7 Helpdesk
As part of an LTP or as Service Support Agreement, whether it is for performance fine tuning or assistance with a specific equipment issue, the help desk can be available to assist you with virtually any kind of technical issue. Help can be provided when you really need it, either by telephone or through secure online connection.

Product Specific Options
Siemens can also provide a number of tailored services, including:
- key performance indicators such as reliability and availability
- performance calculation for each compressor stage such as polytropic and isentropic head including changing gas components
- online software enhancement for special process needs
- vibration analysis (Polar, Bode and frequency spectrum) and diagnostic monitoring of auxiliaries such as coolers, oil units, filters
- optimization of operational margin of surge & choke line.

Product Performance Reports
Using Remote Diagnostic Services, Siemens can provide you with regular reports to help you maximize the productivity of your units, including:
- event analysis and Pareto summary
- predictive trends to help with an earlier detection of potential component faults
- multi variable diagnostic plots (e.g. line graph, x-y plot, polar plot, radar chart)
- analysis and comment by specialist personnel.

Features and Benefits
Key benefits of Remote Diagnostic Services can include
- easy and quick installation
- fast, secure online help and advanced troubleshooting directly from experts without journey
- proactive recommendations
- increased production through maximum train performance, availability and reliability
- outage optimization and reduction of overhaul costs through trend and compressor root cause analysis
- correlation and analysis of rotordynamic data with respect to operational data.

For further information, please contact your local Siemens representative.
Technical Overview
Remote Diagnostic Services are available for all Siemens Industrial Rotating Equipment and consist of five components:

- Data acquisition
- Data transmission / Securing the transmission route
- Data storage
- Data evaluation
- Data expert diagnostic

Data Acquisition
Data is automatically recorded within the control system of the equipment also called „Data Collector“. Integrated solutions for Simatic S7, PCS 7, WinCC and many other 3rd party stand-alone systems via OPC or Modbus interface are available. To obtain optimum performance combined with optimum time resolution, the signals are filtered, pre-processed and prepared for data transmission.

Data Transmission
For protection and security, Siemens has located the common Remote Service Platform (cRSP) server in a demilitarized zone (DMZ). On customer request connections from the Siemens network by an authorised engineer to the customer system, and vice versa, are not put through directly. They terminate in the cRSP server using a reverse proxy function.

Securing the Transmission Route
Siemens recommends a Virtual Private Network (VPN) combined with Internet Protocol Security (IPSec) which can offer the following advantages:

- high level of security
- optimum data transfer quality and availability
- access to other cRSP-based services.

Siemens can assist and provide you with the prerequisites (e.g. VPN router) to use Siemens common Remote Service Platform.
Data Storage
All available values and messages are stored centrally within the Siemens intranet. This can give the customer the benefit of fleet analysis and product improvements based on actual operational conditions. Data is stored anonymously for high confidence and security.

Data Evaluation
A web-based analysis tool is available to support installed machines at a variety of service levels.

Trends for:
- engineering reviews
- web publications.

Alarms and events can be extracted for:
- Pareto analysis
  and/or
- event sequence analysis.

Data Expert Diagnostic
Regarding product specific needs Siemens provides rotordynamic and thermodynamic tools like vibration analysis and diagnostic including (where applicable) polar plots, Bode diagrams, waterfall diagrams, cascade diagrams, FFT diagrams and performance calculation for gas turbines, steam turbines and compressors.

Siemens Remote Diagnostic Services can provide this expert diagnostic not only for stand-alone units but also for various combinations of our products.