GP STRATEGIES™

Knowledge. Performance. Impact.

EtaPRO is a comprehensive condition and performance monitoring system that combines thermodynamics, anomaly detection (APR), and machinery vibration signature monitoring together in one powerful platform to help you better manage the health of your plant and assets. Improve plant availability, capacity, and efficiency with EtaPRO's core technologies for real-time equipment condition monitoring.

EtaPRO™

This latest edition of EtaPRO offers unprecedented technology for full-featured power plant condition and performance monitoring:

EtaPRO APR™ - process and equipment anomaly detection with Advanced Pattern Recognition

EtaPRO ViPR™ - earlier rotating machinery fault detection with Vibration Spectrum Tracking

VirtualPlant™ - best-achievable performance with Thermodynamic Modeling

These technologies are fully integrated and hosted on a common platform for maximum compatibility and optimized user experience. In addition, EtaPRO 10.2 includes these value-added power plant productivity tools:

A management-by-exception anomaly dashboard

Cost-effective, high-performance data archiving

Secure, flexible control room logbook

Daily, monthly and yearly production reporting

Mobile access with cross-platform web client

With EtaPRO 10.2, you'll be able to:

Recognize Plant Anomalies Sooner
Using advanced pattern recognition, EtaPRO APR provides highly granular process and equipment models for identifying changes in condition before they become critical.

Accurately Predict Best-Achievable Performance
EtaPRO's VirtualPlant uses plant design information and first engineering principles to predict online and offline target performance, as well as forecast plant heat rate and capacity for market participation.

Detect Rotating Machinery Faults Earlier
EtaPRO ViPR uniquely combines advanced pattern recognition with real-time vibration spectrum analysis to detect machinery faults in their very early stages. ViPR extends the proven benefits of vibration spectral analysis beyond the machinery specialist to routine plant operations.

Monitor Balance of Plant Equipment Wirelessly
EtaPRO ViPR receives wireless vibration spectral data directly from the transducer and alerts on specific machinery faults for pumps, fans, compressors and other rotating equipment. Vibration signatures are stored long term for ad-hoc analysis and trending.

Better Manage Off-Target Performance

Introduced with EtaPRO APR, the Concerns Viewer provides a single comprehensive display from which to track and manage anomalies and degradation identified by GP Strategies' core detection technologies.

Quickly Diagnose Plant Problems

EtaPRO's proven diagnostic engine has been completely revised to provide full integration with VirtualPlant, APR and ViPR results. Diagnostic routines can run interactively or automatically online with diagnostic messages sent via email, EPReporter™ or EPLog™.
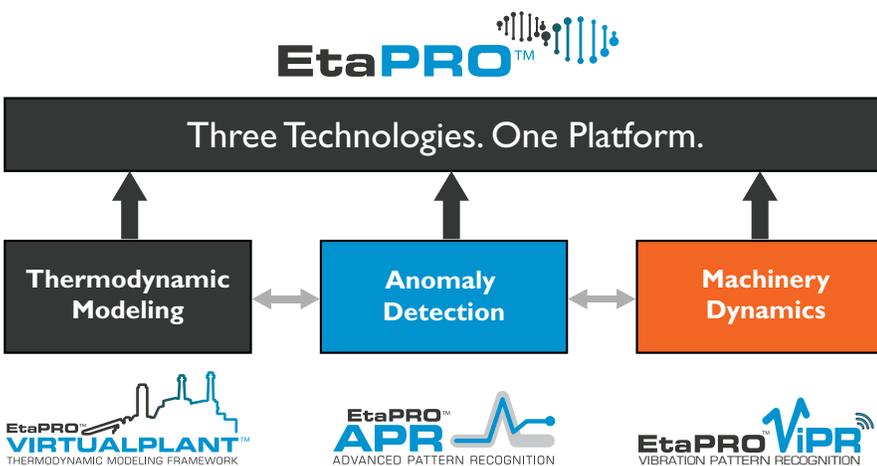
Store Results Cost-Effectively

EPArchive™ is EtaPRO's embedded, high-performance data historian capable of storing all your EtaPRO results, as well as process data. Data streams are automatically created and synchronized thereby streamlining maintenance and avoiding integration hassles. Available data interfaces include OPC DA, Modbus, ODBC, text and PI.

Mobile Device Access

EtaPRO 10.2 comes with an all new, feature-rich web interface for enterprise use. Features include viewing of real-time displays, trends, footprints and EPReports; full-function EPTrendSetter™, EPLog and Concerns Viewer; and support of existing EtaPRO security credentials. This native HTML 5 application supports multiple browsers (IE, Chrome, Firefox, and Safari) and devices (PC, Mac, iPad, Android and iPhone).

More Powerful Production Reporting

The EPAccumulator™ feature in EPArchive counts, totalizes, averages or integrates any EtaPRO point over time. Add daily, weekly, monthly, yearly or contract-to-date statistics to your existing EtaPRO displays and reports. Energy production, fuel consumption, operating hours, equipment starts/stops, time above or below target, etc. are continuously calculated and reliably stored with minimum overhead.

Existing Customers – Choose Your Upgrade

An EtaPRO 10.2 upgrade lets you take advantage of GP Strategies' best technologies at no risk. Existing Performance Plus+™ customers automatically qualify for the EtaPRO Express upgrade, which includes trial versions of APR[1] and EPArchive[2]. With the Express upgrade, you can build up to 12 APR assets and experience first-hand the power of plant anomaly detection using advanced pattern recognition. Use EPArchive with EPAccumulator to supercharge your existing production reports and EtaPRO screens with YTD and MTD operating hours, equipment starts, fuel consumption, etc. See footnote for details.

Prefer to go full steam ahead? Choose the EtaPRO Enterprise upgrade to get immediate, unlimited APR and EPArchive functionality at preferred pricing.

Regardless of the upgrade path you choose, GP Strategies has lowered the barriers to benefiting from our technologies. Need advice? Talk to our engineering specialists about how GP Strategies can help you get the most out of your EtaPRO system!

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[1]If EtaPRO APR is not already installed, the Express installation allows up to 12 assets with up to 30 sensors each to be created and maintained on a perpetual basis, (i.e. there is no time-out). The software has full functionality in all other respects and can be upgraded to unlimited assets with an Enterprise upgrade.

[2]If EPArchive with EPAccumulator is not already installed, the Express installation limits data recovery to six months but has full functionality in all other respects, (i.e. no limit on data streams). Data continues to be permanently stored after six months and can be readily accessed at a later date with an Enterprise upgrade. Note that EPAccumulator statistics are not affected by the six month data recovery limit.

EtaPRO™

Three Technologies. One Platform.

| Thermodynamic Modeling | Anomaly Detection | Machinery Dynamics |

EtaPRO™ **VIRTUALPLANT**™
THERMODYNAMIC MODELING FRAMEWORK

EtaPRO™ **APR**
ADVANCED PATTERN RECOGNITION

EtaPRO™ **ViPR**
VIBRATION PATTERN RECOGNITION