

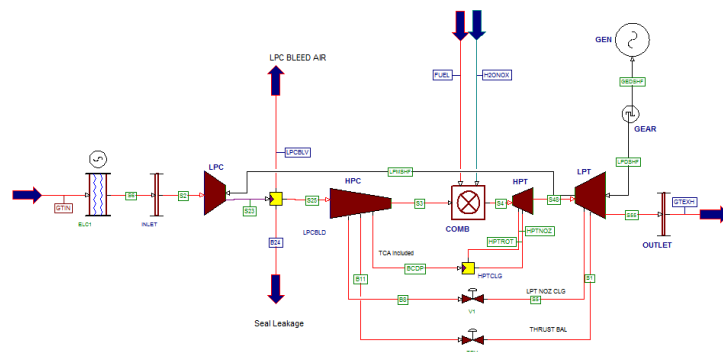
Real time thermal performance analysis

About ExceLANCETM

ExceLANCETM is a highly flexible software built on OSI PI* historian. It combines the modeling capabilities of GE's GateCycle* and Patsimo's capabilities in process data analytics to create a powerful real time thermal performance analysis solution.

ExceLANCETM specially suits power plant fleet owners with diverse portfolios as it can be configured to execute calculations of various plants sequentially. ExceLANCETM, is currently being used for real time thermal performance monitoring of over 4200 MW of Power plant equipment. Results of analysis can be viewed on various OSI PI clients and can also be used to trigger various types of notifications (email, SMS etc.) for any required maintenance actions.

ExceLANCETM is designed keeping simplicity in mind. It can easily be configured by anyone with good knowledge of GateCycle and MS Excel. For combined cycle plants using OSI PI as a historian, a **real time performance monitoring** solution using ExceLANCETM can be implemented in less than a few months.



GateCycle model of a LM6000 Gas Turbine

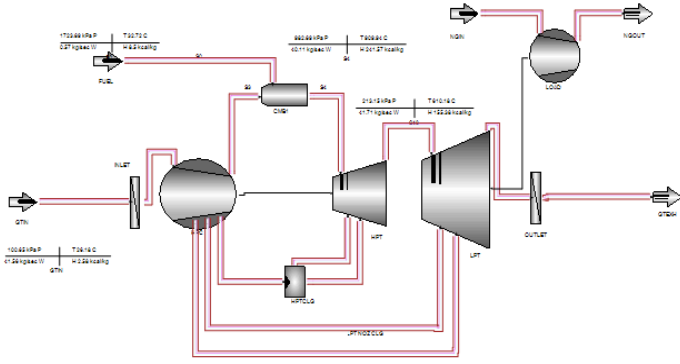
ExceLANCETM features

- Detailed component level performance analysis of power plant equipment using GE's GateCycle.
- Seamlessly interacts with OSI PI, MS SQL, MS Excel etc. for data pull and data push
- Can analyze historical data as well as current data (online mode)
- Can easily incorporate new "plug-ins" to talk to other historians based on customer requirements
- Very easy to configure – end users do not need software coding skills
- Very little software footprint. Runs as a service in the background and needs very little user intervention.
- Can run on regular desktops/laptops.
- Single instance of ExceLANCETM can execute calculations of multiple projects sequentially – Drastically reduces the cost of deployment for fleet owners

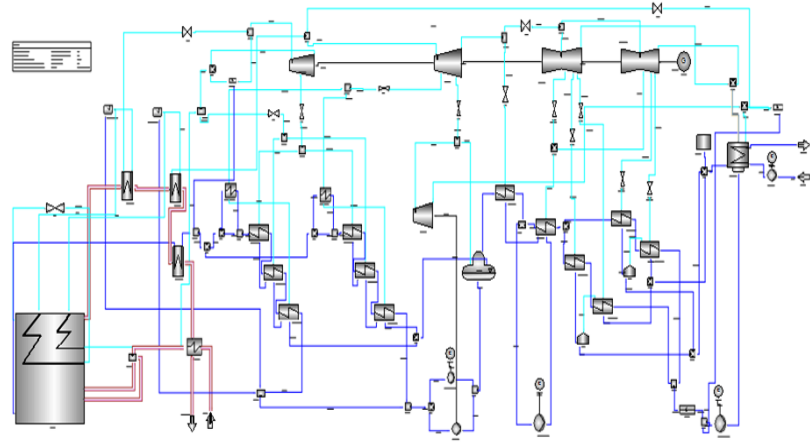
Application

- Simple Cycle plants
- Combined Cycle plants
- Thermal Plants
- Mechanical Drives & Aero Derivatives
- Co-generation units

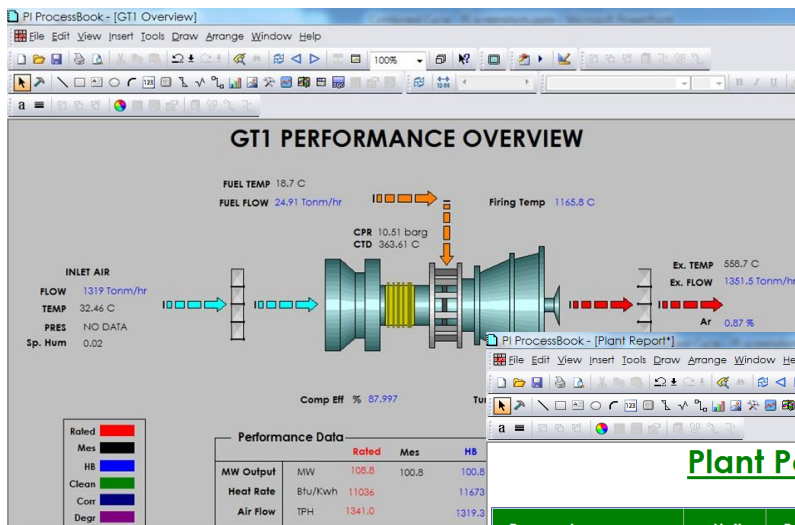




GateCycle model of a LM2500 Gas turbine



GateCycle model of a Coal fired plant

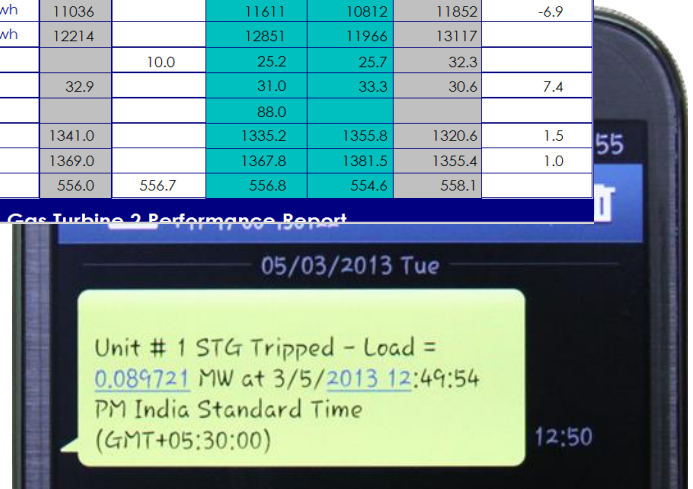


Displays, Reports, Notifications etc. on various PI clients

Plant Performance Report 09-Jul-13 4:30:47 PM

Parameter	Units	Rated	Measured	Calculated	Expected	Corrected	Degradation
Gas Turbine 1 Performance Report							
GT1 Power Output	MW	108.8	103.3	102.5	112.7	99.0	9.9
GT1 LHV Heatrate	KJ/kwh	11036		11611	10812	11852	-6.9
GT1 HHV Heatrate	KJ/kwh	12214		12851	11966	13117	
GT1 Gas Fuel Flow	tph		10.0	25.2	25.7	32.3	
GT1 Efficiency (LHV)	%	32.9		31.0	33.3	30.6	7.4
GT1 Compressor Efficiency	%			88.0			
GT1 Inlet Air Flow	tph	1341.0		1335.2	1355.8	1320.6	1.5
GT1 Exhaust Flow	tph	1369.0		1367.8	1381.5	1355.4	1.0
GT1 Exhaust Temperature	C	556.0	556.7	556.8	554.6	558.1	

- Modeling
- Online Analysis
- Diagnostics
- Alerts & Notifications
- Offline Simulation
- Remote Monitoring



*GateCycle is a registered trademark of General Electric Co. *OSI PI is a registered trademark of OSIsoft Inc. MS Excel, MS SQL are registered trademarks of Microsoft Corporation. ExceLANCE™ is trademark of Patsimo Systems. All other trademarks and logos are property of respective owners.