Thermal Trend

Take your Reliability Program in the right direction…

Establish, manage, and maintain a world-class, in-house Infrared Thermography Program. It is well known that a properly managed Infrared Thermography Program provides both reliability of equipment and lowers the cost of operation. Managing your assets, and all of the information collected about them, however, becomes a real challenge without a proper data management solution.
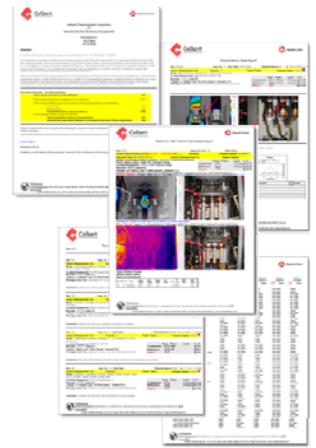
Typical road blocks to your success:

- Inadequate software from camera manufacturers for managing and maintaining inspection data to provide an aggregate perspective across multiple inspections
- Inability to use different infrared camera manufacturers because of proprietary image files
- Inability to reconcile past inspection data in the field at the time of the inspection
- Slow, labor-intensive report generation that wastes large amounts of time

The solution:

Thermal Trend – Lean DB is a time-tested, real-world solution that provides the scalability to be implemented in any size program and the flexibility to run on multiple platforms (servers, desktops, notebooks, tablets and mobile devices). Integrate all of your infrared cameras in one database that will analyze different IR image files and generate powerful reports using HTML/XML. The reports can then be viewed and exported to Microsoft Office applications, opened in web browsers, or saved as PDFs. No other inspection software can provide you with 100% accountability in your reliability program.

Benefit to you…	Features of Thermal Trend
One software program for managing multiple predictive/preventative maintenance inspection types	Infrared Thermography, Visual, Ultrasonic, Corona, Utilities and more!
Industry standard MS SQL non-encrypted relational database with full access to read/write and import/export data to SQL, Access, Excel, Word, etc.	Operating Systems: Windows XP, Vista, Windows 7 (32/64bit) Windows Server 2008, MS Mobile. Customizable integration with Other Databases like SAP, Maximo.
An integrated database/image analysis suite that is independent of camera manufacturer image file format. You can work with a variety of manufacturers' cameras in one program	Advanced analysis of FLUKE, FLIR, NEC, Mikron, Jenoptik, Dali, Wuhan Guide, SAT, file formats etc.
Multi-platform, end-user focused interface for both desktop/server and mobile device platforms	Easy to use interface that does not lock you into "Wizards" for data input, but provides for a smooth data flow on any platform.
Fast and easy Report Generation with tailored reporting	HTML/XML-based report generation, viewable in Microsoft Office, web browsers, PDFs, etc.
Consistent inspection reporting across multiple sites, inspections, and thermographers to ensure that data is entered accurately every time	Thermal Trend allows for user-definable fields and lists in addition to standard presets.
Automated, camera-independent, in-the-field inspection data collection/reconciliation for superior accuracy and high quality information when and where it is needed	Ruggedized, mobile data collection platforms, with integrated bar code scanners, GPS, wireless, blue tooth, cell phone, handwriting recognition, voice recording and digital visual cameras.
Accountability	Track asset test status over time and trend changes.
Efficient route management of locations and equipments using a hierarchical format	Establish the optimal route while doing your inspections. Create or edit routes in the field using your mobile device.
Electronic Data Management System (EDMS) – supports multiple media types	Manage all relevant electronic documentation quickly, e.g. manuals, specifications, correspondence, test results from vibration analysis or motor current testing.
Cost analysis trending	Track risk-avoidance savings with comprehensive cost estimates of asset repairs versus the cost of failures.

Learn more by contacting your Certified Thermal Trend Solution Provider or visit
www.ThermalTrend.com

Thermal Trend

Accountability through comprehensive reporting…

Reports generated using manufacturer software can only take you so far. You do not get the information that you need to make critical decisions and will compromise the effectiveness of your program.

Problems with this approach:

- Report creation is time consuming.
  - Eight hours in the field can easily equate to another eight hours in the office to generate a quality report
- Data stored in a document-based format is essentially a "Flat File." In essence, you do not have a database, but a bunch of inspection files without the ability to compare one inspection to the other.
  - Inspection data is difficult to organize, manage, and maintain
  - Redundant data entry from one inspection to the next
  - Inability to cross-reference and analyze data and images
  - Incapable of being queried and viewed as aggregate data to evaluate the infrared program
- Microsoft Word cannot handle large amounts of data very efficiently, requiring you to break your report down into small pieces.

The solution:

Thermal Trend – Lean DB has been developed on a Microsoft database and development platform. The software has evolved over twenty-plus years with input from thermographers worldwide. A relational database eliminates redundant data entry, improves accuracy, and saves time in creating your reports. Thermal Trend uses HTML and XML to query a SQL database and generate the reports. Report creation is a fast and easy. Thermal Trend's reporting engine, XReport, was designed specifically for Thermal Trend and optimized to create out-of-the-box trending and historical analysis reports. The key benefits to this approach are:

Benefit to you…	Features of Thermal Trend
☑ Your data is stored in a MS SQL database that is cross-referenced and queried to automatically trend your assets	By using a MS SQL database your data is safe and secure, and can be queried to produce any number of reports.
☑ Extremely large reports with 100s of images can be generated without worrying about report file size. Eliminate the need to break up large reports into smaller sections to avoid the corruption and data loss that is common with typical report programs.	HTML/XML report engine "XReport" allows for extremely large data sets to be ran into a report without the problem of data corruption.
☑ The ability to "slice and dice" the data using SQL queries to view and generate any kind of report you wish.	Built in report templates for: ☑ Executive summary ☑ Prioritized list of problems ☑ Detailed documentation reports with IR and Visual images, ultrasound, corona, etc. ☑ Detail reports showing before vs. after images ☑ Historical test status reports of equipment and locations
☑ HTML/XML report templates allow for easy customization of reports using any text editor like Microsoft WordPad or Notepad.	By using HTML for the report template layout you can build and format repots in the same way that web pages are formatted.
☑ Fast and easy Report Generation can be tailored to your needs.	HTML/XML-based report generation. Viewable in Microsoft Office, web browsers, PDFs, etc.

Learn more by contacting your Certified Thermal Trend Solution Provider or visit
www.ThermalTrend.com

Thermal Trend

Making data collection, reconciliation and accountability easier!

One of the most critical items in managing a reliability program is the quality of the data and how and where you use it. The traditional methods of data collection and reports set hurdles in your way for ability to have access to quality data in the field.

Typical hurdles for obtaining quality data:

- Inability of the thermographers to have the data they need when and where they need it—in the field, during the inspection.
  - Data in typical reports are in a format that cannot be used effectively in the field, e.g. multiple 3-ring binders of all past inspections
  - Inability to correctly reconcile past inspection data in the field at the time of the inspection
    - Inability to cross-reference all past problems from all previous inspections with the current one
  - Inability to manage inspection routes, equipment test status and problem lists
  - Manual data entry (paper forms) or using voice recording to try to capture inspection data
- Requirement of having to type up the reports after the inspection is performed.
  - Slow, labor-intensive report generation that wastes large amounts of time

The solution:

Thermal Trend – Lean DB provides for a seamless flow of high-quality data between the office and the thermographer. By using a mobile data collection device / Pocket PC (PPC) that is running Microsoft Windows Mobile software, you are able to synchronize the data that is on the server with the PPC and have direct access to it at the time of the inspection. You are able to create and edit route lists of locations and equipment and use bar codes, CMMS asset ID numbers, and even GPS locations to locate equipment. Inspection results are entered into the PPC at the time of the inspection leaving nothing to have to be typed up after the inspection is complete. All past problems are reconciled against the current inspection so that you have complete accountability of all past problems. **Thermal Trend** is a time-tested, real-world solution, making data collection and accountability easier.

Benefit to you…	Features of Thermal Trend
☑ Quality data when and where you need it, in a format usable for both the thermographer and management.	Unique software interface that is designed around how thermographers work with data in the field. This provides an easy method of being able to capture data during the inspection and reconcile all past problems at the same time.
☑ Correct identification of equipment and locations, so that problems don't get mixed up with the wrong piece of equipment.	Mobile devices allow Thermal Trend to use bar codes, CMMS asset IDs, and GPS to identify the asset so that you can review its history. Just scan the bar code and Thermal Trend will find the complete history.
☑ Works with any IR camera, ultrasonic equipment, UV camera, etc.	Advanced analysis of FLUKE, FLIR, NEC, Mikron, Jenoptik, Dali, Wuhan Guide, SAT, file formats etc. Works with UE and SDT ultrasound. Works with any corona camera.
☑ Multi-platform, end-user focused interface for both desktop/server and mobile device platforms.	Easy-to-use interface that does not lock you into "Wizards" for data input, but provides for a smooth data flow on any platform.
☑ Fast and easy Report Generation with tailored reporting.	HTML/XML-based report generation. Viewable in Microsoft Office , web browsers, PDFs, etc.
☑ Consistent inspection reporting across multiple sites, inspections or thermographers.	End-user-definable fields and values for consistent reporting among different thermographers to ensure that data is entered correctly every time.

Learn more by contacting your Certified Thermal Trend Solution Provider or visit
www.ThermalTrend.com

Thermal Trend

What is the next step? How do we make this happen?

Setting up a solid reliability program is easy using Thermal Trend – Lean DB. But there are a few steps and considerations that you must make to ensure that everything goes smoothly.

1. **Hardware/Software considerations:**

It is best to take baby steps at first when implementing a program. Review at the most basic level who will need access to the software (installed on server, notebook, mobile device, etc.) for working with the data, and where that place should be. (The actual MS SQL database can be moved when necessary depending on your future growth needs.) Consider how many people will need direct access to the actual database/software as opposed to reviewing the inspection reports. These reports can then be printed or saved onto a shared drive.

It is best to start small and get up and running before you decide to take on boiling the ocean. You can easily ratchet up the program for hardware/software once you have established a solid beachhead.

Installation of Demo License of Thermal Trend-Lean DB
- A fully functional license of Thermal Trend-Lean DB can installed for your review and to assist in helping to get you up and running. The license is a 30-day evaluation period. All of your data in the MS SQL database remains accessible even after the temporary license expires.

2. **Training and support:**

Training and support is provided by your Certified Thermal Trend Solution Provider (CTTSP). They can customize the program depending on your requirements. From helping on the first inspections and creating the routes of locations and equipment to be tested, to documenting the items that are found and helping to generate the reports for you, it is easy to get started.   Your CTTSP can also provide ongoing mentoring and support depending on your needs.

3. **Scope of work and proposal/price quote/approval:**

Once the scope of work is defined, based on your preliminary needs for software licenses, and how you wish to handle the support training, a customized proposal/price quote will be drafted for your review. Based on your confirmation and approval, your CTTSP can get the program up and running.

We take great pride in the proven, time-tested, solution that Thermal Trend provides. Our focus on accountability, reliability, and efficiency has always been at the core of what we do. Our customers don't compromise the quality of their inspection programs, and neither do we. They are part of our team and help us continue to improve our products.

We look forward to being a part of your team and welcoming you to our family of world-class customers.

Your reliability team at Thermal Trend!

Learn more by contacting your Certified Thermal Trend Solution Provider or visit
www.ThermalTrend.com