Reporting provides the quick answers you need

Today’s industrial plants can’t afford crippling unplanned downtime, high maintenance costs, and wasted energy. Seeing early warnings of impending machine failure empowers maintenance staff to schedule repairs but how to get answers from all of the reams of data coming in? All too often the information is locked away in high resolution images, complex plots, vague reports or siloed away between the teams. The key to success is understanding how to properly use the information in the most efficient manner.

Reporting basics

The needs for reporting can be different based on the person requesting it, the industry, the technologies, the applications, and the company culture. Does the report need to be forwarded on to generate a work order, or consolidated in an enterprise program, or reviewed by the supervisor, or put in a folder for later? (Or never seen again). Here are the basics:

Enterprise report
Commonly referred to Computerized Maintenance Management Systems (CMMS) are used company-wide and at the highest level. Like Fluke’s eMaint software, which is used by companies that want to get the most from the data by connecting all databases together.

Connected report
Fluke Connect® Measurements collaborates by sharing data wirelessly between multiple Fluke tools to the cloud for reference and sharing with supervisors and experts. Fluke Connect® Assets helps you build and sustain a predictive maintenance program.

Individual tool report
Each Fluke tool has its own specific report that was designed to provide the results for the tool.

There are four commonalities in most reports but quite often presented a little different depending on the tool and the technology:

1. Setup—ensures the tool is set up correctly
2. Measure—simple readings or complex data
3. Diagnose—the data might need some analysis in order to get useful answers.
4. Action—recommended next steps
The 805 FC is easily added to the operator rounds to screen machine health. After a quick measurement, it provides three readings and two severity scores—is the machine ok or is further testing needed?

The measurements can be saved both on the 805 FC and sent wirelessly to a Fluke Connect enabled device.

There are two reporting methods available:

1) **Fluke Connect**—share information (3 readings and 2 severity scores) with everyone on your team. Trend the overall vibration over time. Store and track the severity scores and measurements.

2) **Excel template**—trend all three measurements simple data (a number) can be trended over time.

Or, copy and paste data into your own custom spreadsheet.
**810 Vibration Tester**

Most rotating machine failures come from four common faults: imbalance, misalignment, bearings, and looseness. The 810 has an auto diagnostic program—based on 30 years of machine baselines analyzed by vibration experts from real machines—that helps your team return to work even faster. Extensive setup, trending, analysis and onsite experts are not needed.

There are three reporting methods available:

1) **Tester screen**—review data and results in the field.

2) **Viewer software**—review data and results on your PC.

3) **PDF report**—One button push from Viewer software. Review setup and data to validate results.

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**Measure**

Complex data: high resolution vibration spectrum in 2 ranges and 3 axis from each bearing—review to validate data.

**Setup**

Check to see if the test was setup correctly.

**Diagnose**

Automated analysis (database, baseline and rule base from experts). If Setup and data is valid, then Diagnosis is valid.

**Action**

Follow the recommended next step: No action, further testing needed, schedule next downtime, or repair immediately.
**830 Laser Shaft Alignment Tool**

The 830 employs an intuitive guided user interface that walks the technician through the steps and performs complicated alignment calculations for your team. This means you’ll have the answers you need to quickly align most of your machines (not just a few) and get your plant up and running fast.

All-in-one screen provides misalignment values at the coupling center, severity scores based on tolerances, and correction values: shims and jacking bolts to align motor shaft to stationary shaft.

Document your work with PDF report before and after.

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**Setup**
- Check to see if the test was setup correctly?

**Measure**
- Simple data: coupling misalignment values at the coupling center for Gap and Offset.

**Diagnose**
- Automated analysis of alignment condition in vertical and horizontal based on tolerance tables.

**Action**
- Follow the recommended corrections of motor feet based on alignment condition: excellent, good, out of tolerance, grossly misaligned.
Technicians can use the thermal imaging capabilities of the handheld Ti450 Infrared Camera in order to discover and diagnose various issues, including cooling problems and impeded airflow, bearing issues on motors, and many mechanical problems. The Ti450 produces sharp, clear images with advanced focus systems. Technicians can also highlight equipment areas that are outside your pre-set ‘normal’ temperature ranges quickly with color alarms.

Powerful SmartView software for your Windows desktop computer makes it easy to optimize images, perform advanced analytics, generate quick, customizable reports, and export images to the format of your choice. Easily adjust visible and infrared image blending and locate potential problems with IR Fusion technology. Get a closer look at problem areas by adjusting the level and span, changing the color palette or enabling color alarms.

There are three reporting methods available:

1) **On the camera screen**—images can be viewed locally.

2) **SmartView desktop software**—makes it easy to optimize images, perform advanced diagnostics, generate quick, customizable reports, and export images to the format of your choice.

3) **Fluke Connect mobile app**—share information with everyone on your team.

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**Measure and Diagnose**

View image and send it to Fluke Connect mobile app or download to PC to include in report. Easily adjust visible and infrared image blending and locate potential problems with IR Fusion technology.

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**Diagnose and Action**

Get a closer look at problem area by adjusting the level and span, changing palette or enabling color alarms and 3D-IR. Review notes and recommendations.

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**Main Image Markers**

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<th>Temperature</th>
<th>Error</th>
<th>Background</th>
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<td>P3</td>
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<td>6.6°C</td>
<td>40.7°F</td>
</tr>
</tbody>
</table>
438-II Power Quality and Motor Analyzer

The 438-II provides a streamlined and cost effective method for testing motor efficiency, while eliminating the need for external mechanical sensors and costly downtime. It provides electrical and power quality measurements including voltage, current, and harmonics. It also provides vital mechanical measurements such as torque and motor efficiency.

1) Enter the motor rating plate information into the 438-II, so that the instrument may provide a benchmark for NEMA derating and motor performance measurements.

2) The data collected can be viewed real time locally on the instrument. Screenshots may be sent to the Fluke Connect mobile app or loaded into the PowerLog 430-II desktop software.

3) Additional logged data such as electrical and power quality measurements may be viewed via PowerLog 430-II desktop software. A professional PDF report may be generated, which includes all the electrical measurements important to making energy savings and troubleshooting decisions.

Fluke. Keeping your world up and running.

Setup
Enter motor rating nameplate information.

Measure and Diagnose
View live motor data and send screenshots to Fluke Connect mobile app or download to PC to include in report.
NEMA derating chart provides a quick way to determine if motor is being overworked or underworked.

Diagnose and Action
View trend data such as voltage, amps, and power to determine optimal energy savings and troubleshoot power quality issues.