LMS Test.Lab Desktop
LMS Test.Lab Desktop
Transforming test data into effective reports
LMS Test.Lab Desktop
Transforming test data into effective reports

Data management is crucial in any testing department. The amount of data that is produced is enormous, as is the investment it represents. Converting, visualizing and analyzing test results is not only time-consuming, but often also requires specific application knowledge. Moreover, as reporting results and sharing information between departments is indispensible, minimizing time spent processing data and creating reports greatly contributes to the efficiency of an entire organization.

LMS Test.Lab Desktop is the perfect solution to efficiently visualize, analyze, report, and share results with others. It transforms test data into concise reports. It helps reduce time spent on converting data between formats and avoids losing vital information in the process. With LMS Test.Lab Desktop, information can be effortlessly accessed and distributed across different departments.
**General in usability, focused in application**

Collecting data from practically any source, manipulating them in any way, and then creating great reports is straightforward with LMS Test.Lab Desktop. Anyone with a basic knowledge of Windows operating systems can use it.

Browse over and into data files using a familiar Explorer-like interface. Just click on a function and the data automatically loads into the display. Search for data using context strings - such as the person who performed the test, the object configuration, the measurement date, or other particular details. You can even bookmark important data so you can find it easily weeks later.

Data can be accessed without knowing which particular application program was used to acquire them or how it operates. With LMS Test.Lab Desktop, it is no longer necessary to learn another code just to make a report.

**Total transparency**

LMS Test.Lab Desktop works transparently with data from any source. There is no need to copy, convert or even know where the data is located. Data acquired by legacy systems can easily be compared to something measured today using the latest equipment. You can access competitive benchmarks acquired by other departments or compare the status of the latest prototype with the results of the previous model measured years ago. Being able to access all these data in a transparent way means you can leverage investments you have made in the past. With the support of the ASAM/ODS standard, Test.Lab Desktop makes it possible to access and exchange data across platforms without losing vital descriptive information.

**Reveal hidden noise and vibration problems**

Noise and vibration problems are often caused by subtle events: the troublesome third order that is nearly or quite masked by background noise, the local mode just at the point where you need to connect a sensitive component, or the annoying rattle that develops over time. To discern intricate details, you need powerful graphical displays with flexible limit settings, a choice of viewing angles, color scales and line formats. Optimized by years of LMS experience, the LMS Test.Lab Desktop graphics provide everything you need for noise and vibration engineering.

**Compare and understand**

Often insight only comes by comparing data - which may not be easy when measurements were made by different people, incompatible equipment or even at different times. With LMS Test.Lab Desktop you can align spectra with different resolutions into power spectral densities (PSDs), scale them, change acoustic weightings, smooth curves, and perform a host of other operations. The system automatically takes care of unit conversions so you can never make a mistake overlaying data measured in millimeters, meters, or inches. The original data sets remain unchanged and are never overwritten. Reference curves stored together with display layouts immediately tell you whether you meet the target or not. Advanced cursor functions help you quickly scroll through the curves, jump to peaks and read out values. You can even make comparisons by listening to the data.

**Document and organize your data**

LMS Test.Lab Desktop helps document the huge amount of data that a typical test team generates every week. You can add key information to raw data, such as operator details, test object descriptions and testing conditions for data traceability, as well as digital images showing the actual test setup. Better documentation means your data will retain its value long after the testing phase has been completed.

As the amount of test data grows, it is crucial to organize and keep track of it. You need a system that makes data annotation consistent - one that relates measurement results to product structure and speeds up data search and retrieval. You can extend LMS Test.Lab Desktop with LMS Tec.Manager, which is developed for engineering data organization and fully integrated with LMS Test.Lab.

**Make compelling reports and bring them to life**

LMS Test.Lab Desktop makes it easy to create compelling reports. You can combine trace, waterfall, and surface-shaded animations along with labels, lines, and logos to conform to corporate standards. All Microsoft Office features are available to highlight crucial elements. Once you have a template, LMS Test.Lab Desktop automatically fills in data-specific details - such as channel number, axis limits, and cursor read-outs - as the report is being produced. Copy and paste work is eliminated and consistency within the company guaranteed.

Reports can be made in Microsoft Word and PowerPoint, and saved in PDF and HTML e-reporting standards. With OLE/ActiveX technologies, your documents are not static reports, but dynamic entities so that other readers can manipulate data formats and animation viewpoints to suit their particular requirements.

**Organize printing reports with minimum effort**

When you need to report large data sets based on the same test, batch reporting and organizer facilitates structured printing of large data files according to multiple pre-defined plot formats, created in Microsoft Office applications, including Active Pictures. Intuitive ways of ordering data are available to sort your data according to various print templates. Both electronic document printing and printing to a printer are supported.

- Easily create convincing test reports and presentations
- Reproduce company standard plots using Microsoft Office
- Gain test insight through application-tuned graphics
- Access all LMS Test.Lab, LMS Test.Xpress, LMS CADA-X, Roadrunner and Pimento data
- Easily share your test information with others
LMS Test.Lab Desktop – Standard

LMS Test.Lab Desktop - Standard provides all the standard tools for efficient, test-based NVH engineering. It is the dedicated starting point to run most applications of the LMS Test.Lab product family. Based on the Microsoft Windows™ look, LMS Test. Lab Desktop has a familiar feel and guides the user step-by-step throughout different test procedures. It is designed for optimal ease-of-use, flexibility and overall efficiency.

LMS Test.Lab Desktop - Standard has a workflow-based user interface. Clear and straightforward displays help users perform measurements quickly and accurately. Templates launched from your desktop describe complete testing procedures including measurement setups, layouts with reference curves and operator directives. LMS Test.Lab Desktop - Standard helps engineers maintain an overview of the entire test procedure at all times.

LMS Test.Lab Desktop - Standard provides full documentation of the test project and straightforward data organization. Data is easy to find and every relevant document or file can be linked to a specific project. The navigation tree and flexible displays greatly improve data analysis. Since users have a complete overview of results during measurements, hidden problems can be detected faster.

LMS Test.Lab Desktop - Standard can be customized to specific company standards and helps users create reports fast and efficiently. Within a few hours, an untrained technician or engineer will run the most advanced tests, compare acquired data and publish reports on the web.

LMS Test.Lab Desktop – Standard has numerous import and export possibilities: export to Universal File, SDF, Matlab, Dynaworks, wav and Text; import from Universal File, Matlab, Dynaworks, STL, TEAC TAffmat, wav. Nastran and nCode DAC are optional.

Features
- Offers simultaneous access to different applications and multiple projects
- Automatic setup of operator-specific environment
- Automatic data selector accesses all LMS data formats
- Numerous possibilities for data annotation, viewing, interpretation, and conditioning
- Creation and management of displays
- Optional ASAM-ODS interface to server and ATF/ATFX file format

Benefits
- Easy data traceability for clear interpretation of test conditions and results
- Windows explorer-like navigator for easy data access, selection, filtering and sorting
- Convenient import and export of different data formats
- Flexible reporting and powerful communication of test results

<table>
<thead>
<tr>
<th>Features</th>
<th>Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Offers simultaneous access to different applications and multiple projects</td>
<td>Easy data traceability for clear interpretation of test conditions and results</td>
</tr>
<tr>
<td>Automatic setup of operator-specific environment</td>
<td>Windows explorer-like navigator for easy data access, selection, filtering and sorting</td>
</tr>
<tr>
<td>Automatic data selector accesses all LMS data formats</td>
<td>Convenient import and export of different data formats</td>
</tr>
<tr>
<td>Numerous possibilities for data annotation, viewing, interpretation, and conditioning</td>
<td>Flexible reporting and powerful communication of test results</td>
</tr>
<tr>
<td>Creation and management of displays</td>
<td>LMS Test.Lab Desktop features advanced data search capabilities.</td>
</tr>
<tr>
<td>Optional ASAM-ODS interface to server and ATF/ATFX file format</td>
<td></td>
</tr>
</tbody>
</table>
LMS Test.Lab Desktop – Advanced

LMS Test.Lab Desktop – Advanced is the gateway to advanced post-processing options, such as signature processing, operational deflection shapes (ODS), time animation, time data analysis, and modal analysis. They appear together in the LMS Test.Lab Desktop – Advanced ‘workflow bar’, so you can effortlessly switch between various options and displays. All functionalities of LMS Test.Lab Desktop – Standard are also available in the advanced solution.

LMS Test.Lab Desktop – Advanced offers solutions for faster and easier data management and post-processing. The data calculator provides a dedicated formula-based calculator and various functions to post-process measured data. Multiple data blocks can be calculated simultaneously with only one formula entry. The resulting data are available for visualization and can be saved in the project. The data block editor offers a table-based interface to build up your own data block; the resulting data block is shown and updated on a 2D display as you are editing. It is possible to start from an existing block to speed up the process. Any data block can be saved as a reference block or used in the data calculator.

When performing benchmark studies or testing structures under different operating conditions, large amounts of data are obtained and need to be reported. Batch reporting facilitates organized printing of large data quantities according to multiple pre-defined Microsoft Office plot formats, including Active Pictures. For customizing the final results, users can fix the absolute scale of the printed items and choose between electronic document printing or printing to a printer.

The order or frequency cut of a waterfall diagram can immediately be examined by an advanced cursor that shows the interactive cut on a 2D display by moving the cursor on the diagram. Without processing the waterfall diagram, the cursor-driven processing helps speed up your findings.

LMS Test.Lab Desktop – Advanced makes it possible to listen to data and improve your analysis. Audio replay is an integrated part of the solution. It further secures the testing environment by locking parameters during a test to protect against misunderstandings about test conditions, test parameters and accidental parameter manipulation.

LMS Test.Lab Desktop – Advanced is the powerful layer of the modularly organized LMS Test.Lab product suite and covers many generic functions such as loading applications, user interface control and standard configurability.

### Features

- Contains all features of LMS Test.Lab Desktop – Standard
- LMS Test.Lab Data Calculator and LMS Test.Lab Data Block Editor functions
- Cursor-driven processing for fast waterfall diagram analysis
- Controlled data access with parameter locking function
- Batch reporting and absolute scale formatting for organized and customized printing
- Audio replay of recorded data

### Benefits

- Secured testing environment
- Optimized test and analysis time
- Speed up reporting procedure

Audio Replay: the possibility to play back recorded audio data makes comparison and analysis easy.
LMS Test.Lab Windows Automation Support Option

LMS Test.Lab Windows Automation Support helps users set up connections between external programs and LMS Test.Lab applications. This option requires LMS Test.Lab Desktop – Advanced.

If you work with a development environment that supports Windows Automation, it is possible to customize, extend, automate or integrate LMS Test.Lab.

Direct and monitor LMS Test.Lab

Standard LMS Test.Lab solutions can be driven from external applications. This is interesting for customization as well as automation. All these actions can be performed externally:

- Open an application
- Activate worksheets
- Initiate actions by ‘pushing buttons’ from outside, e.g. starting a measurement
- Show/hide worksheets
- Change parameter values
- Access display functionality

LMS Test.Lab events and measurement values can be continuously observed from within an external application, which means that remote monitoring of a measurement process can be implemented. Also, an event generated at the end of a measurement session can be used to trigger another process like sending an email to the operator.

Analysis extensions

When using Windows Automation, it is possible to extend a LMS Test.Lab application with in-house algorithms. These algorithms can take their input data directly from LMS Test.Lab, without having to export the data to a file. For further data processing or storage, the results can be introduced into the LMS Test.Lab software in exactly the same way.

Integration with other software

A measurement system like LMS Test.Lab often needs to be connected to external control systems, like a test rig environment. Through Windows Automation, LMS Test.Lab and the control system can be integrated into a configuration, in which either system can act as master or slave.

LMS Test.Lab can be joined with e.g. Microsoft Excel, where data from LMS Test.Lab can be exported to Excel for further statistical analysis and charting.

It is also possible to add ActiveX components into the LMS Test.Lab user interface. In this way, control of external devices can be closely integrated within the workflow of LMS Test.Lab, although it remains a separate process.
Using LMS Test.Lab as toolbox

The opposite of extending LMS Test.Lab with in-house algorithms, is to complete an in-house software package with functions coming from LMS Test.Lab. Thanks to Windows Automation, LMS Test.Lab functions and building blocks (e.g. pictures) can be used within external programs, while keeping data and control in the external program.
LMS is an engineering innovation partner for companies in the automotive, aerospace and other advanced manufacturing industries. With 30 years of experience, LMS helps customers get better products to market faster and turn superior process efficiency into key competitive advantages.

With a unique combination of 1D and 3D simulation software, testing systems and engineering services, LMS tunes into mission critical engineering attributes, ranging from system dynamics, structural integrity and sound quality to durability, safety and power consumption. With multi-domain solutions for thermal, fluid dynamics, electrical and mechanical system behavior, LMS can address the complex engineering challenges associated with intelligent system design.

Thanks to our technology and dedicated people, LMS has become the partner of choice of more than 5,000 leading manufacturing companies worldwide. LMS is certified to ISO9001:2008 quality standards and operates through a network of subsidiaries and representatives in key locations around the world. For more information on LMS, visit www.lmsintl.com.