

## Creating reports with user documentation and other text modules

ArtemiS SUITE<sup>1</sup> provides a very versatile reporting functionality, which makes it easy for you to present your analysis results in clearly arranged reports. This Application Note provides instructions on how to embed user documentation and other text modules a report:

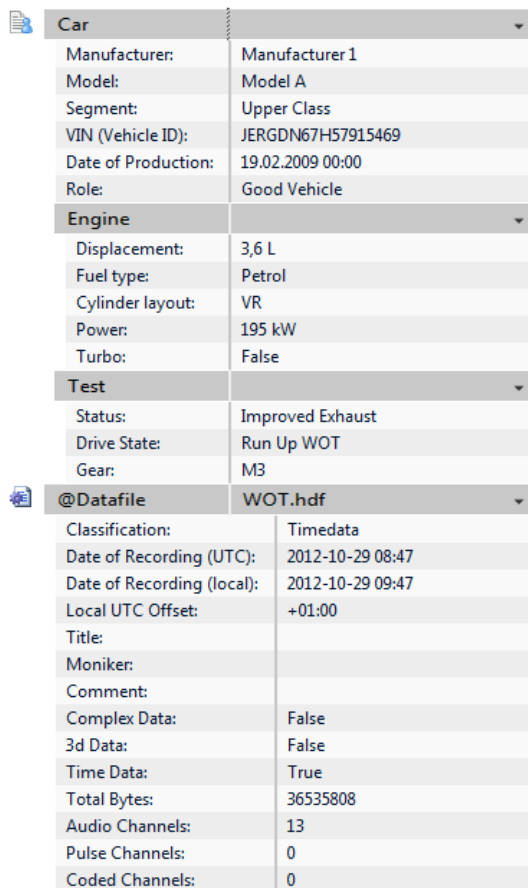
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Other Application Notes are available, which explain, for example, how to generate a simple report, and provide general information on the reporting functions. You can download them in the Download Center on the website of HEAD acoustics:

[https://www.head-acoustics.de/eng/nvh\\_application\\_notes\\_reporting.htm](https://www.head-acoustics.de/eng/nvh_application_notes_reporting.htm)



The reporting function is described below using a Pool Project as an example. Basically, the descriptions also apply to other projects of ArtemiS SUITE, e.g., the Automation Project.

### What is user documentation?



<b>Car</b>	
Manufacturer:	Manufacturer 1
Model:	Model A
Segment:	Upper Class
VIN (Vehicle ID):	JERGDN67H57915469
Date of Production:	19.02.2009 00:00
Role:	Good Vehicle
<b>Engine</b>	
Displacement:	3,6 L
Fuel type:	Petrol
Cylinder layout:	VR
Power:	195 kW
Turbo:	False
<b>Test</b>	
Status:	Improved Exhaust
Drive State:	Run Up WOT
Gear:	M3
<b>@Datafile</b> WOT.hdf	
Classification:	Timedata
Date of Recording (UTC):	2012-10-29 08:47
Date of Recording (local):	2012-10-29 09:47
Local UTC Offset:	+01:00
Title:	
Moniker:	
Comment:	
Complex Data:	False
3d Data:	False
Time Data:	True
Total Bytes:	36535808
Audio Channels:	13
Pulse Channels:	0
Coded Channels:	0

Figure 1: Documentation Viewer

The documentation functionality provided by ArtemiS SUITE allows you to store relevant information along with your measurement results. The documentation is subdivided into user documentation , which is maintained by the user, and system documentation , which is generated automatically from the HDF file (see figure 1). User documentation can be created when recording with the HEAD Recorder and can be edited later. The scope of user documentation is defined by the user. For example, you might document only the operating state, but you can also store a complete description of your measurement setup. The documentation is either embedded directly in the HDF file or stored in a separate file.

User documentation is accessible in ArtemiS SUITE, e.g., for searching in the database, for labeling diagrams or for reporting.

Detailed instructions on how to create and maintain documentation can be found in the Application Note “User Documentation”. The present Application Note focuses on how to include existing user documentation when using the reporting function.

<sup>1</sup> The descriptions in this Application Note refer to version 9.0. The general procedures also apply to other versions. However, the scope of functionality and the user interface may differ.

## Creating a report with user documentation

In order to populate a report with user documentation, you first need a number of recordings that have been documented in a consistent manner. This is a precondition to ensure that user documentation actually facilitates your practical work.

In the example below, a report is populated with analyses of two time domain signals and with excerpts from their user documentation. This is supposed to allow a direct comparison between the two recordings. The project used is shown in figure 2.

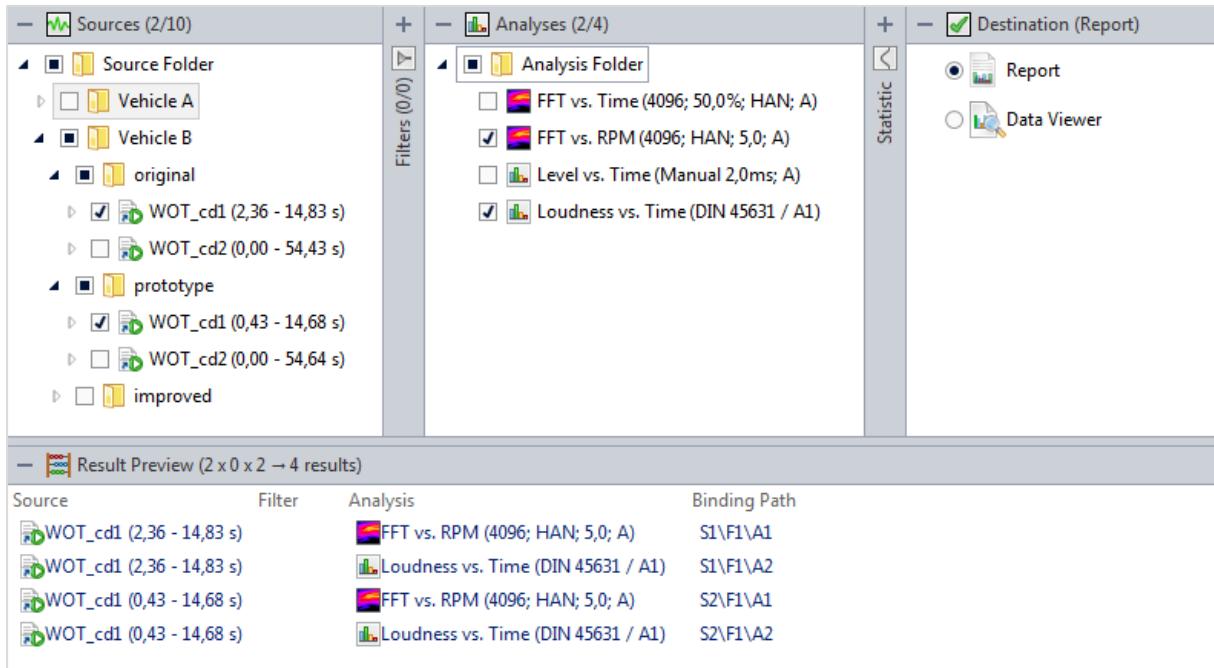

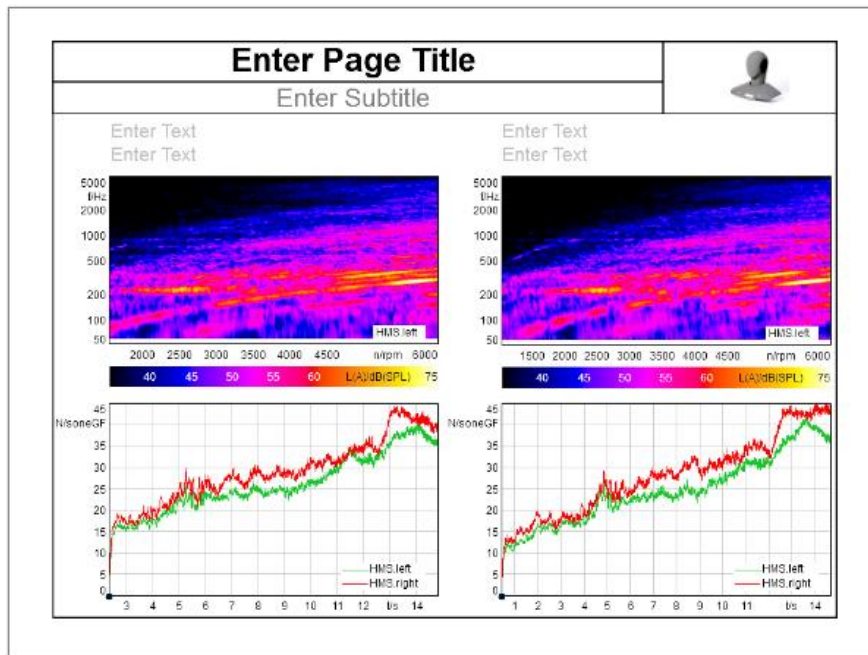


Figure 2: Example of a Pool Project


Double-clicking on the Report icon in the Destination Pool or a click on the  button in the toolbar starts the calculation and opens a new report with the default page layout<sup>2</sup>. In this report the calculated results are available as data sources. Afterwards the report can be adapted, and data sources can be linked to the diagrams.<sup>3</sup> Figure 3 (next page) shows an example of a report with analysis results.

<sup>2</sup> For instructions on how to configure a different default page layout, see the Application Note “Using the reporting function in ArtemiS SUITE”.

<sup>3</sup> A detailed description can be found in the Application Note “Using the reporting function in ArtemiS SUITE”.



**Figure 3:** Example of a report with analysis results

Now you can add the desired text information from the user documentation. To do so, click on the text box and open the Properties window, e.g., by using the  button. Then link the signal whose user documentation you want to appear to the text box by checking the checkbox next to the time domain signal in the **Data Binding** tab in the **Available Data** list. In the **Content** tab in the section **Text**, which you may have to open by clicking on the plus icon, first the default entry **Mark/Group Name** appears in the field **Text Pattern**. Clicking on the plus icon in front of this field opens a list, and under the menu item **Documentation**, you will find a submenu, from which you can select text items from the user documentation of the selected time domain signal (see figure 4). In our example, we have selected the item **Drive State** for the title of the report.<sup>4</sup>

<sup>4</sup> Attention: If you have not linked a data source to the text box, no user documentation is available. In this case, the **Documentation** sub-menu will only contain the item **Field**. This item can be edited manually.

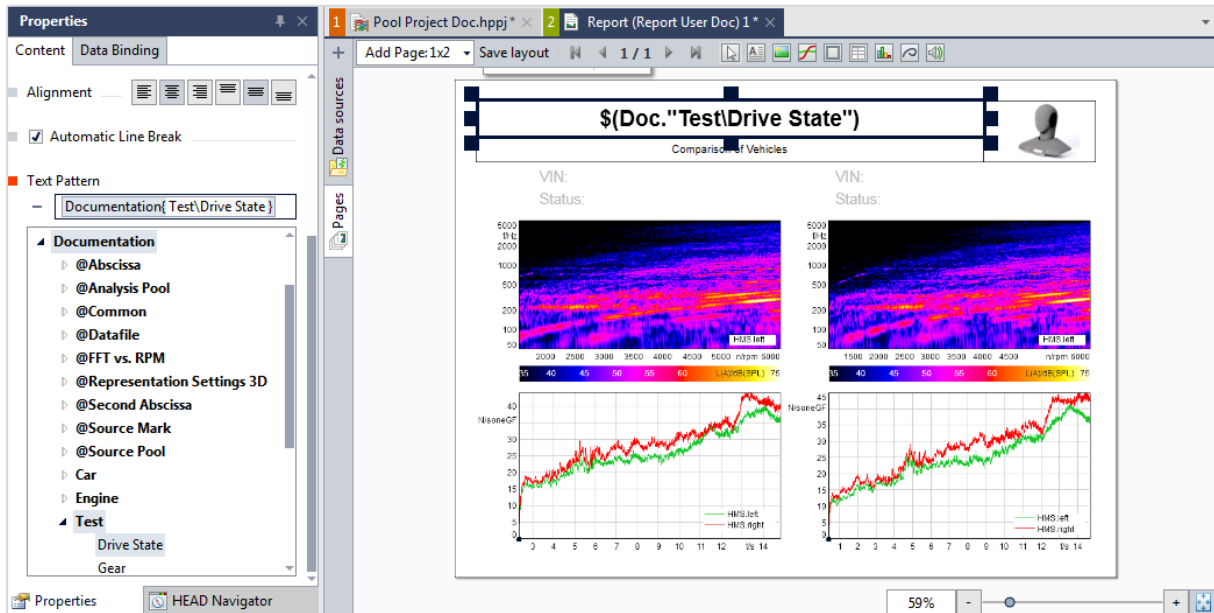


Figure 4: Selecting text items from the user documentation

In the same way, you can now populate the other text boxes with information from the user documentation. Figure 5 (next page) shows the finished report.

If you save this report as an HRPX file and use it as a template for another report, not only the analysis results in the report will be replaced, but also the information taken from the user documentation. In order for the replacement to work properly, the new time domain signals must have the same kind of user documentation.

In a new calculation, you can also choose to replace only one of the two time domain signals. In the example below, the analysis in the left diagram (*Original*) was maintained, and only the time domain signal for the right diagram has been replaced (*Prototype Exhaust* replaced by *Improved Exhaust*, see figure 6, next page).

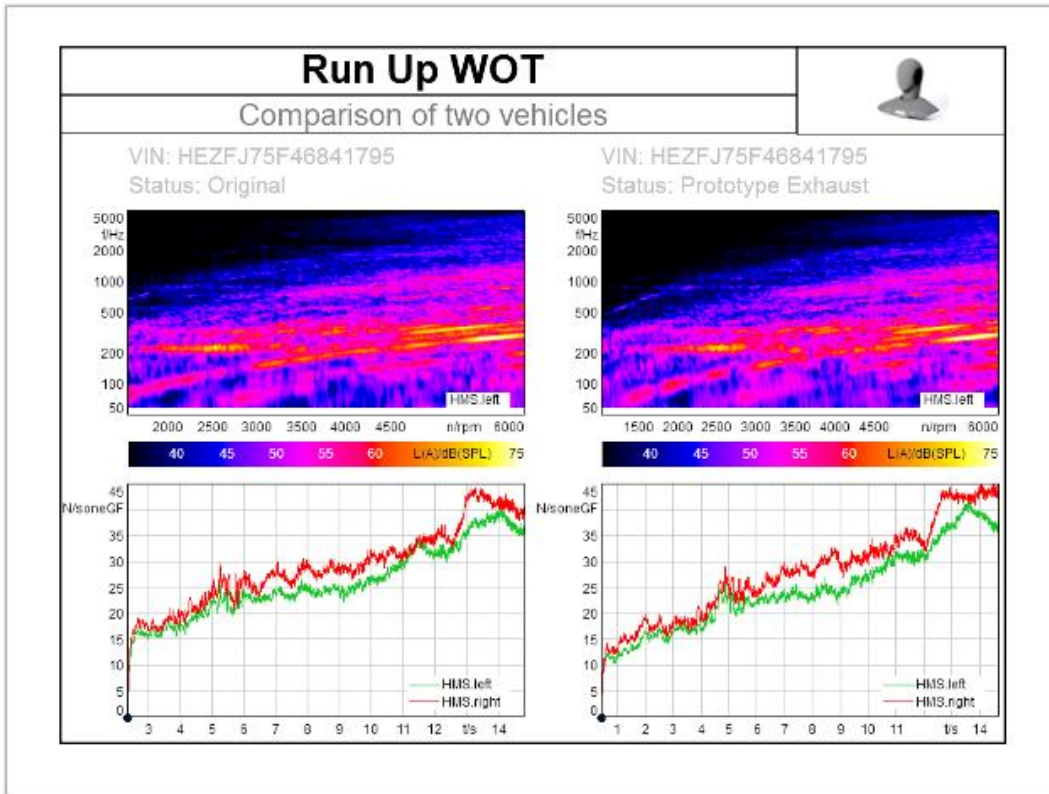


Figure 5: Example of a report with user documentation

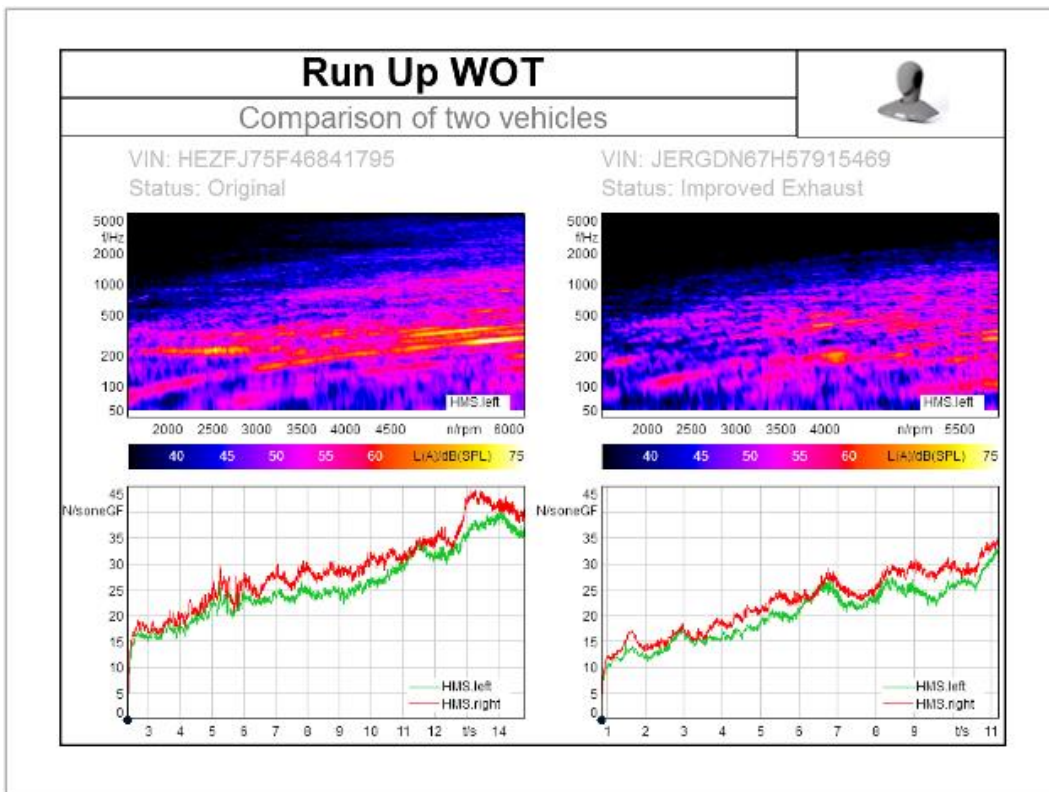


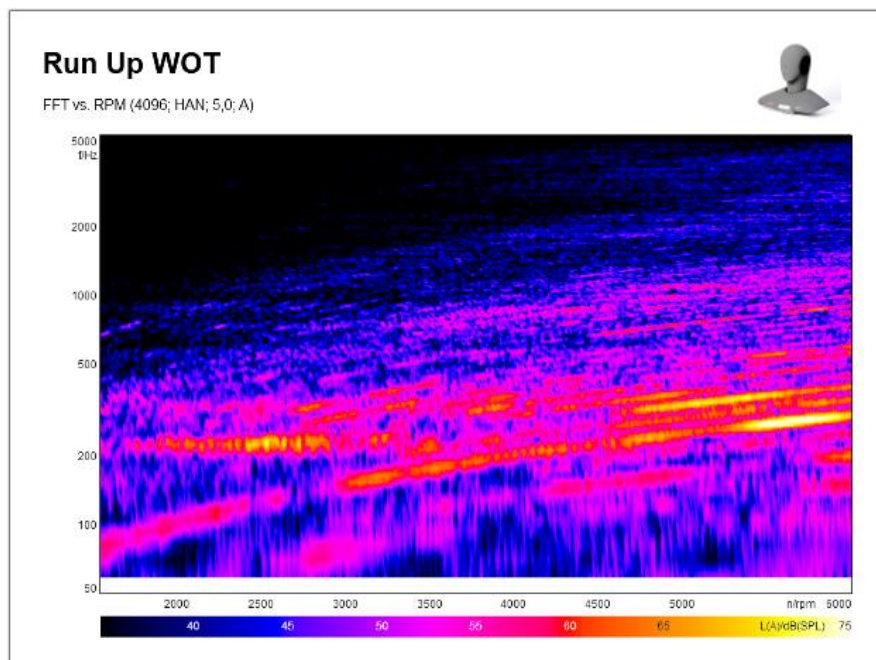
Figure 6: Report with user documentation after replacing one time domain signal for the calculation

## Using other text modules

Besides user documentation, you can also include other text modules in your report. You can, for example, display the parameters of the analysis functions used. These parameters can have a massive influence on the analysis results, therefore, it can make sense to document them in the report in order to reduce the work for future verification tests.

Text modules such as analysis parameters are included in a report in the same way as user documentation: first click on the desired text box with the left mouse button. Then bind the analysis whose system documentation you want to display to the text box by clicking on the checkbox next to the analysis. The section **Pattern** will initially show the default item **Analysis name**. Click on the plus icon to open a menu, from which you can select other analysis parameters via the item **Pool Project -> Analysis -> Analysis Name (Parameters)**.

In the report shown in figure 7, some analysis settings are displayed in the subtitle.



**Figure 7:** Example of a report showing some analysis parameters

If you save such a report and use it for additional calculations with different analysis parameters, the parameters will be automatically updated in the report.

Additional application notes describing the reporting in ArtemiS SUITE you can find in the Download Center on our web site:

[http://www.head-acoustics.de/eng/nvh\\_application\\_notes\\_reporting.htm](http://www.head-acoustics.de/eng/nvh_application_notes_reporting.htm)

Do you have questions to the author?  
Contact us at [imke.hauswirth@head-acoustics.de](mailto:imke.hauswirth@head-acoustics.de).  
We are looking forward to your feedback!