**HEAD** acoustics



ArtemiS SUITE
PRoject

Code 50021

# APR 021
# Comparison Report

**With Comparison Report of ArtemiS SUITE, you can analyze and compare your data using batch processing in a clearly arranged and dynamic Report. This enables you to perform benchmarking at the touch of a button, compare product development stages effortlessly, and much more.**

# OVERVIEW

## APR 021
## Comparison Report

### Code 50021

Use the Comparison Report Project to calculate your data with an Automation Project in one step and receive a Report in which the results are optionally displayed all together or individually in the diagrams (2D, 3D, XY, Color Band, Single Values, ...). This allows differences or similarities to be analyzed very quickly, even with large amounts of data.

The Comparison Report Project extends the applicability of both the Report (APR 020) and the Automation Project (APR 050), simplifies your workflow, and significantly increases productivity when evaluating your data.



## KEY FEATURES

Quick comparison of data in a single, easy-to-understand Report

› Compare any amount of data (measurement data, synthesis data, etc.) and any number of analysis results with each other
› Change individual analysis parameters using variables according to individual specifications to compare the resulting differences

Easy or complex data preparation and processing using an Automation Project

› Use individual sequences with various functions, analyses, and other processes from an Automation Project
(All ASP processes – ArtemiS SUITE Signal Processing – that are used in the Automation Project require the respective licenses)
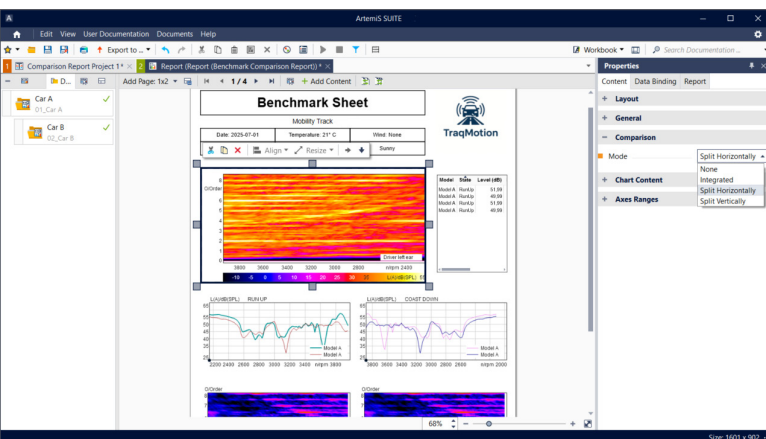
Use of individually created Reports with

› 2D, 3D, XY, Color Band, Point Map, and Butterfly Diagrams
› Single values (diagram, table)
› Texts, pictures, audio files

Output of results as Report, PPTX, PowerPoint, or results data

## APPLICATIONS

› Performing automated comparisons of any amount of data and any number of analysis results for benchmarking etc.
› Comparing different development stages for product optimization etc.
› Working with the Automation Project in batch processing mode

# DETAILS

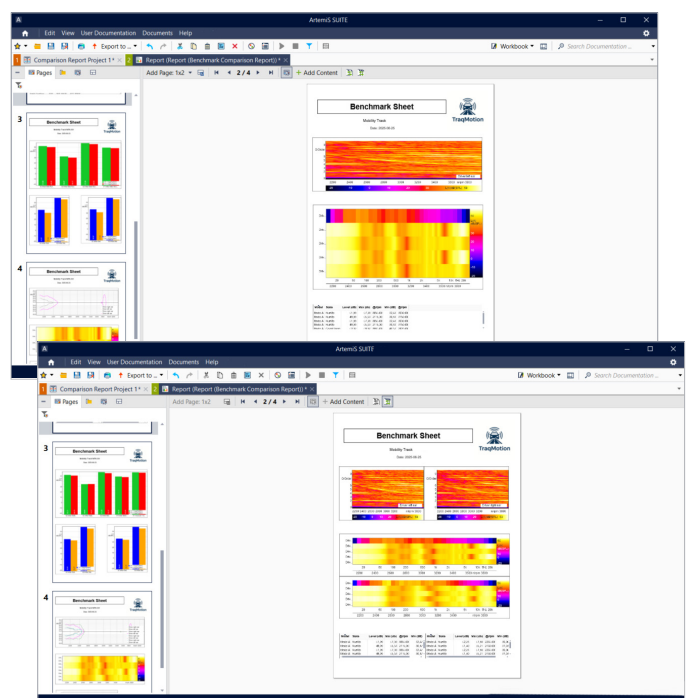## THE COMPARISON REPORT PROJECT

### Extended Options

In addition to using the Report (APR 020) and the Automation Project (APR 050), the Comparison Report Project provides significant enhancements and thus goes beyond a mere combination of the two proven modules of ArtemiS SUITE.

The functionality of the Automaton Project has been enhanced by the batch processing of the Comparison Report Project, now ensuring that any amount of data can be processed in a single step. Batch processing mode enables you to handle recurring, computationally intensive or labor-intensive tasks particularly efficiently, reduces the susceptibility to errors, simplifies your workflows, and significantly increases productivity when evaluating your data.
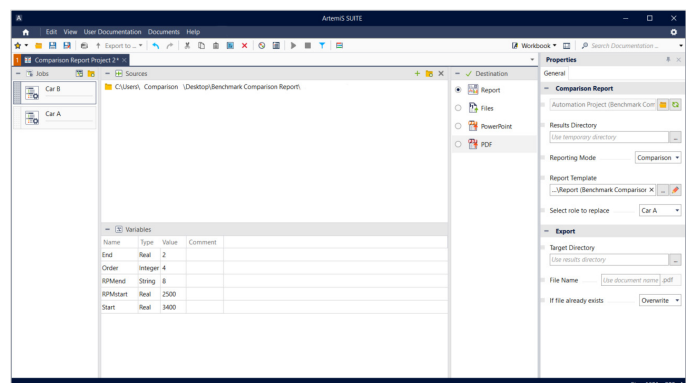
The Report has also been considerably enhanced by the Comparison Report Project, as you no longer have to create individual Reports but can compare any amount of data directly with each other in a single Report. Furthermore, the Report provides you with additional functionalities for optimal presentation of the comparisons.

### Using Variables

The advantages of combining a Report and an Automation Project in a smart way are not only evident when processing any amount of data in batch processing for automatic comparisons. You can also use the variables known from the Automation Project to detect the effects of variation-dependent adjustments to your products and enable rapid optimization.



*Switching from normal Report mode (diagram at the top) to Comparison mode at the touch of a button*



*Using individually adjustable variables to examine variants of a product or component*

# Report at the Touch of a Button

The Automation Project and the Report are used as the basis for creating the Comparison Report Project. The clearly arranged interface enables you to select the data (jobs) to be compared, which may comprise any number of individual files or even entire folders of data. The data structures must be comparable with each other, but the Automation Project also provides options for dealing with different structures.

Even analysis results that have already been calculated with a Comparison Report Project can be selected for a new Report and combined with data that has not yet been analyzed. In this way, existing reference data can be quickly and easily compared with new data, for example.

At the touch of a button, the results are automatically fed into the Report. All data sources are displayed together in the Report elements or individually in one Report element each, either side by side or one below the other.

If you wish to process different variants of a file differently, you can use the interface of the Comparison Report Project to adjust the variable you have defined in the Automation Project.
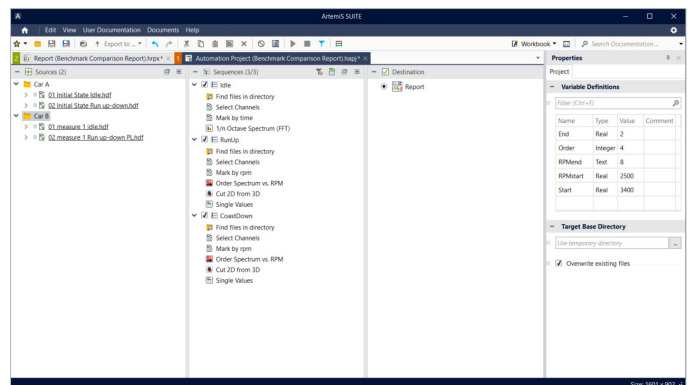
To make changes to the Automation Project or the Report, you just need to change the templates and update them in the Comparison Report Project.

## Output Options

The results are output either as a Report, PowerPoint presentation (*.pptx), or in PDF format. If only the Automation Project is to be calculated, these are the only results that are saved as files.



*Examples of display options*



*Example of a simple Automation Project*

# DISPLAY OPTIONS IN THE REPORT (APR 020)

## 2D/3D Diagram

› Individually editable display of two-dimensional and three-dimensional data sets
  › Time data, 2D or 3D analyses over time/RPM, ...
  › Tolerance curves
  › Pulse channels can be bound and displayed if they are of the "pulse rate" or "trigger" type

## XY Diagram

› Graphical representation of the relation between two channels from one or two HDF files with a common time abscissa (same physical quantity and unit as well as a common abscissa subrange)
› Time data, 2D analyses over time/RPM, ...
› Visualization of single load cycles and deflections
› Representation of the vibrations of components etc.

## Color Band Diagram

› Clear visualization of several 2D results in one diagram
› Representation of the individual 2D curves one below the other as color bands
› Color coding of the ordinates
› Display of time signals and 2D analysis results
› Fast recognition and comparison of "patterns"
› Better control of multichannel measurements, e.g., through fast acquisition of useful signals
› Clear representation of the path distribution of transfer path analyses

## Point Map Diagram

› Graphical representation of a single value as a function of two reference quantities
› Corresponding data sets can be created with an Automation Project (APR 050 is required) using the Point Map and Point Map Rasterizing (optional) elements

## Butterfly Diagram

› Graphical representation of directional two-dimensional data sets
› Display of any number of normal 2D datasets

## Single Values Diagram

› Graphical representation of single values in a column diagram
› Combining several single values (minimum, maximum, average) into one value

## Single Values Table

› Tabular display of statistical single values
› Display of the single values as linear or other physical quantities and in dB

## Text

› Formatable display of freely entered text
› Automatic filling of text fields with text automatically generated by variables
› Using additional information from the documentation of linked data
› Inserting comments

## Figure

› Inserting, for example,
  › a company logo
  › an illustration of a measurement setup

## Audio

› Integrating sounds, audio examples, etc. that can be played at the click of a mouse during the presentation after the PowerPoint export

# LICENSES AND OPTIONS

## General Requirements

| Code | Product Name | Application Scenario |
|------|-------------|---------------------|
| 50000 | APR 000<br>APR Framework | The license for APR 000 is the basis of ArtemiS SUITE and is required for all application scenarios. |
| 50021 | APR 021<br>Comparison Report | The license for APR 021 is required to open, edit, and calculate a Comparison Report Project |
| 50020 | APR 020<br>Report | The license for APR 020 is required<br>› to create a Report template for the Comparison Report Project<br>› to open and edit the Report template that is used for the Comparison Report Project<br>› to open and edit the Report that was created using the Comparison Report Project |
| 50050 | APR 050<br>Automation Project | The license for APR 050 is required<br>› to create an Automation Project that is to be used as a template for the Comparison Report Project<br>› to open and edit the Automation Project that is to be used for the Comparison Report Project |
| 51001<br>to<br>51801 | ASP 001<br>Basic Analysis<br>to<br>ASP 801<br>Basic Decoder | The licenses for all processes from ASP 001 to ASP 801 used in the sequences of the Automation Project are required to calculate the Automation Project using APR 021<br><br>(Various processes available in APR 000 are free of charge and do not need to be licensed) |