

ArtemiS SUITE
Project

Code 50050

APR 050 Automation Project

An Automation Project of ArtemiS SUITE enables the interactive creation of so-called sequences with which users can process their input data automatically.

OVERVIEW

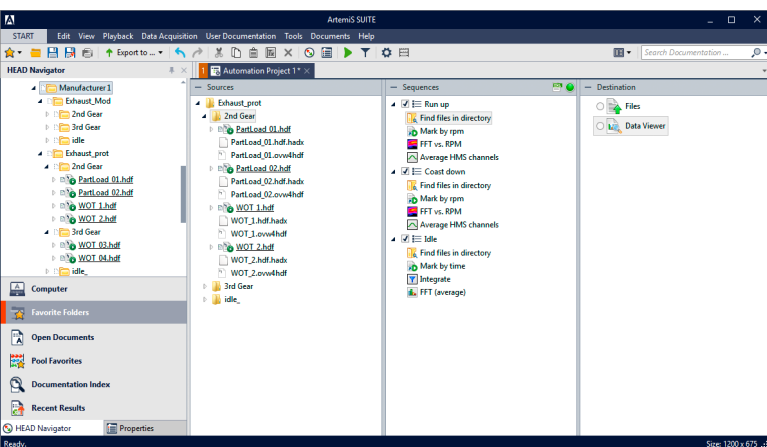
APR 050 Automation Project

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Automation Projects are ideal for measurement and analysis tasks that need to be performed in a repetitive way without user interaction.

Automation Projects can either be created and executed manually by the user, generated by ArtemiS SUITE from an existing Pool Project (APR 010 is required), or executed via the HEAD Navigator.

Automation Projects consist of three pools. The data to be processed are specified in the first pool. Processing chains of configurable elements can be created individually in the second pool. Therefore, functions like selection, cutting, filtering, analysis, calculation of a single value, import/export, etc. are available. The output of the results is configured in the third pool: output to a new file, a Data Viewer, or a Report (APR 020 is required).



KEY FEATURES

Automation Projects can be used to prepare and process measurement data automatically

- › Filters, analyses, statistical calculations, cutting of marks, decoders, etc.
- › Channel-specific analyses (e.g., separated by airborne and structure-borne sound)
- › Sequence Bundles for parallel calculation of all contained sequences
- › ...

All processing elements, such as analyses, filters, statistics, used in Automation Projects require the corresponding ASP licenses.

Automation Projects are subdivided into three pools

- › The Sources (pool) can be used to insert any kind of files or even whole folders as sources
- › The Sequences (pool) can be used to define how the input data shall be processed; all input signals are fed into all existing and activated sequences. The information flow within a sequence happens from top to bottom whereby the results of one step become the input data of the next one.
- › The Destination (pool) for an automated output of results, e.g., in a Report (APR 020 is required)

APPLICATIONS

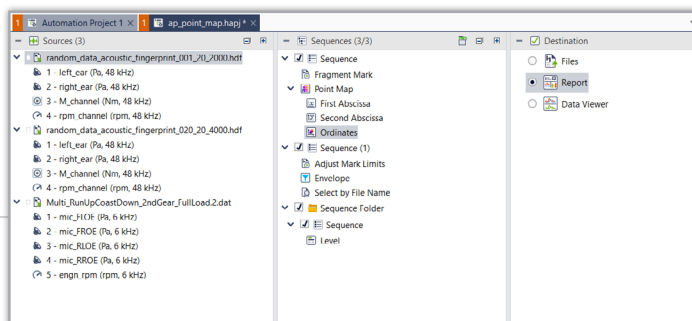
- › Creation and execution of Automation Projects for repetitive workflows without user interaction
- › Optimally applicable for smaller and larger pre- and post-processing processes
- › Automated data preparation, e.g., decoding, matching with HDF templates, ...

OPTIONS

ALL OPTIONS NOT INCLUDED IN APR 050 OR APR 000 MUST BE LICENSED SEPARATELY

SOURCES POOL

- › Time data for the subsequent processing
- › HDF
- › ATFX suitable ATFX data sets are created automatically



DESTINATION POOL

- › Report (APR 020)
 - › Basic Report
- › Framework (APR 000)
 - › Data Viewer
 - › Single Values Table

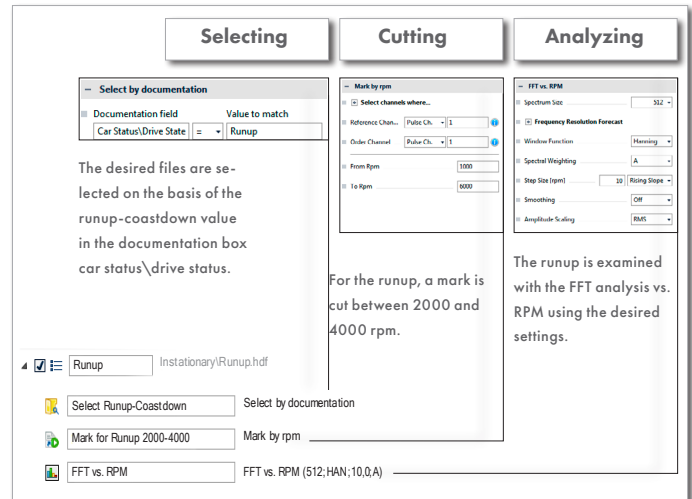
SEQUENCES POOL

- › Basic Analysis (ASP 001)
 - › FFT vs. Time, ...
 - › 1/n Octave Spectrum (FFT), ...
 - › Level vs. Time, ...
 - › Power Spectral Density, ...
 - › Single Value: Level
 - › ...
- › Basic Analysis vs. Control Ch. (ASP 002)
 - › Analyses from ASP 001 vs. Control Ch.
- › Advanced Analysis (ASP 003)
 - › VFR, ...
 - › HSA, ...
 - › Gated DFT, ...
 - › Wavelet
 - › ...
- › Advanced Analysis vs. Control Ch. (ASP 004)
 - › Analyses from ASP 003 vs. Control Ch.
- › Modulation Analysis (ASP 005)
 - › Modulation analyses vs. Time, vs. RPM, vs. Band, ...
- › Order Analysis (ASP 006)
 - › Order Spectrum vs. Time, vs. RPM, ...
 - › Time Signal vs. Rotation
- › Octave Analysis (ASP 007)
 - › 1/n Octave Spectrum (Filter) vs. Time, vs. RPM, ...
- › Framework (APR 000)
 - › Tolerance Check
 - › Single Values, ...
 - › Documentation Tools
 - › ...
- › ASX 06 (Data Processing Add-In API)
 - › Analysis Add-In 2D, 3D
 - › Export-Merge Add-In
 - › Filter Add-In
 - › Post-Analysis Add-In 2D, 3D
- › Psychoacoustics - Basic Analysis (ASP 101)
 - › (Specific) Loudness, ...
 - › (Specific) Sharpness, ...
 - › Tonality DIN 45681, ...
 - › Specific Fluctuation Strength, ...
 - › ...
- › Psychoacoustics - Basic Analysis vs. Control Ch. (ASP 102)
 - › Analyses from ASP 101 vs. Control Ch.
- › Psychoacoustics - Adv. Analysis (ASP 103)
 - › (Specific) Loudness (Hearing Model)
 - › (Specific) Roughness (Hearing Model), ...
 - › (Specific) Tonality (Hearing Model), ...
 - › (Specific) Impulsiveness (Hearing Model), ...
 - › Spectrum (Hearing Model)
 - › Relative Approach, ...
 - › ...
- › Psychoacoustics - Adv. Analysis vs. Control Ch. (ASP 104)
 - › Analyses from ASP 103 vs. Control Ch.
- › Speech Intelligibility Analysis (ASP 106)
 - › Speech Intelligibility Index vs. Time, ...
 - › ...
- › MDF4 Export (ASP 703)
 - › ASAM Measurement Data Format (MF4)
- › MTS-RPC Conversion (ASP 704)
 - › MTS-RPC (RSP)
- › UFF Conversion (ASP 705)
 - › Universal File Format (UFF)
- › Free (no license required)
 - › ATFX, MP3, WAV, XLSX, ASC
- › Basic Decoder (ASP 801)
 - › Decoder CAN, OBD, FlexRay, Pulse, Trigger, GPS, Direction Angle, Resolver
- › System Analysis (ASP 201)
 - › Transfer Function, ...
 - › Impulse Response, ...
 - › (Multiple, Partial) Coherence, ...
 - › (Cross, Auto) Correlation, ...
 - › (Cross, Auto) Spectrum, ...
 - › Harmonic Distortion, ...
 - › ...
- › System Analysis vs. Control Ch. (ASP 202)
 - › Analyses from ASP 201 vs. Control Ch.
- › Sound Power Analysis (ASP 203)
 - › Sound Power vs. Time, ...
 - › Sound Power Spectrum vs. Time, ...
 - › Sound Power K1 Background Noise Spectrum
 - › Sound Power K2 Environmental Correction Spectrum
- › Data Preparation (ASP 302)
 - › Single Value from Documentation
 - › Mark by Time, RPM, Start/Stop Trigger, ...
 - › Point Map, ...
 - › (Rename, Concatenate, Remove, Merge) Channels
 - › Mark by Time, RPM, Trigger, Fragment Mark, ...
 - › Adjust Mark Limits
 - › Spectrum, ...
 - › Reset Abscissa
 - › Cut 2D from 3D, ...
 - › Linear Smoothing
 - › Spectral Smoothing
 - › Data Reduction, ...
 - › ...
- › Batch RPM Generator (ASP 304)

FUNCTIONING PRINCIPLE

Automation Projects enable the creation of so-called sequences with which users can process their input data in an automated way. Thus, it represents an alternative for the interactive Pool Project. The key difference exists in the fact that instead of the cross product of all filters and analyses (Pool Project), only the defined sequences are run through once by all input data (Automation Project). In addition, users can hereby narrow the particularly desired signals down, for example, on the basis of their documentation, so that the otherwise required switching of the activation ticks for mixed input data can be omitted.

Furthermore, users can add an Automation Project element to the Destination Pool of a Pool Project and receive all sequences resulting from the cross product of all activated filters and analyses. Afterwards users can, for example, reduce the sequences to the relevant combinations or extend them by further instructions.



Example of a processing chain with three elements: The desired files are selected, then cut according to the specifications, and finally the resulting marks are analyzed with the third element.

FREE OPERATING PROCESSES

Various operating processes that can be used in ArtemiS SUITE and ASX (HEAD System Integration and Extension) solutions are freely available and do not need to be licensed.

The following processes can be embedded in Automation Projects and applied without licenses:

- | | | | |
|-------------------------------------|-------------------------------------|-----------------------------------|---------------------------|
| > Apply ATFX Documentation Template | > Excel Workbook (XLSX) | > Representation Settings 2D | > Select by File Name |
| > Apply Documentation Template | > MPEG Layer 3 (MP3) | > Representation Settings 3D | > Select Channels |
| > Apply Template HDF | > Wave (WAV) | > Representation Settings Sampled | > Select Subset |
| > Calculate Documentation Field | > Find Data Sets in ATFX | > Reset Abscissa | > Set Documentation Field |
| > Remove Channels | > Find Files in Directory | > Select by Documentation | > Single Value Diff |
| > Delete Documentation | > Import ASCII Text Format | | > Single Value Tolerance |
| > Export 16 Bit HDF | > Import ASAM Transport File (ATFX) | | |
| > ASCII Text (ASC) | > Import MP3 | | |
| > ASAM Transport Format (ATFX) | > Import Wave (WAV) | | |

Required: APR Framework (Code 50000)
and/or: HEAD System Integration and Extension (ASX) programming interfaces



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