WEISANG

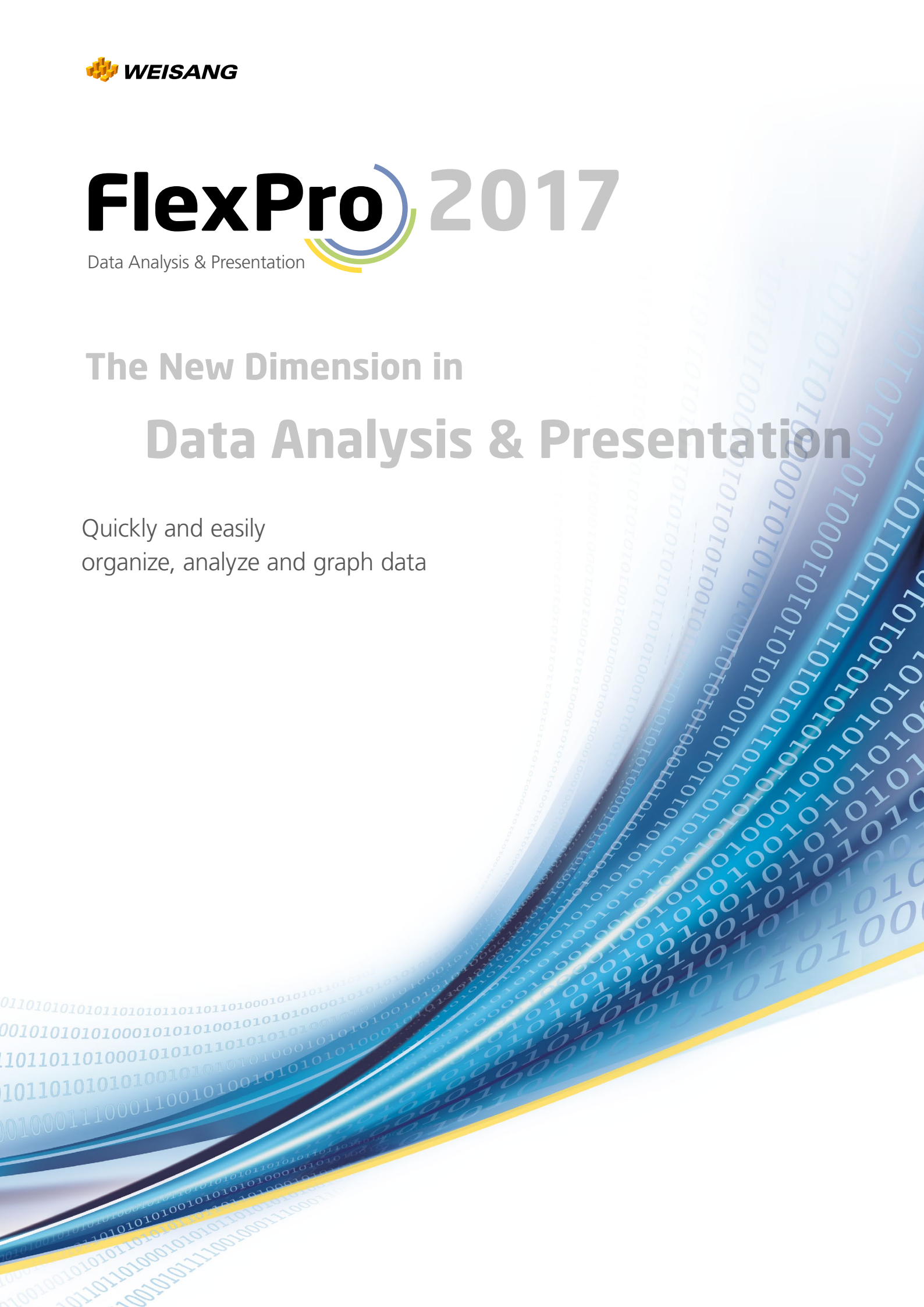
FlexPro 2017

Data Analysis & Presentation

The New Dimension in

Data Analysis & Presentation

Quickly and easily
organize, analyze and graph data



Choose FlexPro

And turn data into knowledge

What happens during a crash? What is the service life of turbine vanes? What forces affect a person using a jack hammer?

FlexPro will help you find the answers to these and many other questions. Weisang's analysis software excels in tackling whatever task you have at hand that requires you to record and study the data of dynamic procedures.

The New FlexPro 2017:
Find the hidden gems in your data archive!

Since its introduction 25 years ago, FlexPro has impressed scientists, engineers and others all over the world who work with technical data due to its speed, ease of use and overall performance.

Use the new FlexPro 2017 to extract key information from your measurement data archives. The FlexPro 2017 server-based indexing feature scans all your data, calculates quantities defined by you and stores all of the aggregated data in a SQL database.

This index database allows your entire team to quickly run data queries based on data attributes such as statistics, quantities, units, test objects or test numbers. This is measurement technology big data!

Easy to organize and share...

- Import your data in all popular formats (such as Excel, ASCII, database and measurement system/acquisition software binary file formats).
- Clearly and reliably manage your data and analyses in the centralized project database.
- Speed up the exchange of information – share your templates with your team.

Easy to analyze...

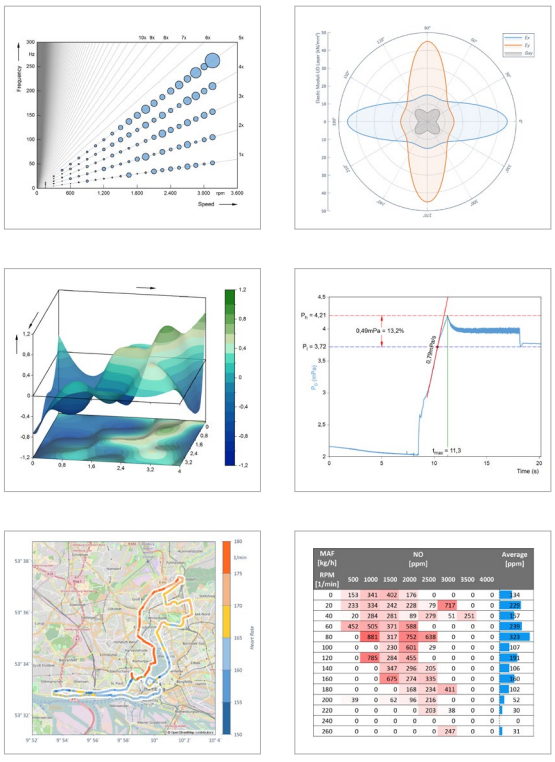
- Start analyzing your data at the click of a button.
- Create dynamic analyses for multichannel measurements and test series.

Easy to visualize...

- Create custom templates for analysis and presentation.
- Combine measurement data with map displays and videos.
- Take advantage of the new layout features in FlexPro 2017.

FlexPro 2017

Data Analysis & Presentation



FlexPro 2017 presentation and analysis examples

State-of-the-art:

FlexPro 2017 with a redesigned user interface

The new Microsoft Office-like ribbon makes FlexPro 2017 extremely easy to use. It highlights important commands and provides the ability to dynamically insert optional tools improve the software's layout and ease of use.

New features in FlexPro 2017:

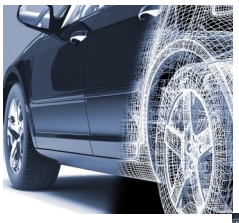
- New intuitive interface with the look and feel of MS Office
- Diagram and table format templates
- Conditional formatting of tables
- Dynamic diagrams and tables
- Intelligent text import
- File indexing in client/server mode (optional feature)

Detailed information is available at:

www.weisang.com/flexpro

Easy to deploy

FlexPro – for dynamic operations



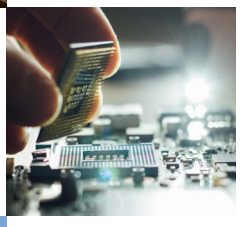
Automotive industry

Mechanical engineering

Aviation

Defense

Coal and steel industry



Electronics

Rail

"By choosing FlexPro, we were able to reduce development costs considerably for analyzing simulation data from network computations. In particular, combining the strengths of VBA and the FPScript formula language made it possible for us to keep our programming costs to a minimum."

Thomas Greif,
Systems Engineering Group Manager, Traction Power Supply,
SIEMENS AG Transportation Systems

FlexPro – as fast as your dynamic processes

A popular phrase quoted in technical textbooks is „measuring means comparing". Experts in the field know that everything's fine as long as the objects aren't moving.

When it comes to industrial manufacturing processes and test setups in research and development, however, scientists frequently deal with dynamic processes. For instance, when a car crashes into a wall during a crash test, signals are produced with millions of measuring points – that's where FlexPro comes in.

As opposed to spreadsheet programs, which are not designed for these types of applications, FlexPro can easily read, display and analyze dynamic measurement data using data cursors and spectral analysis at the click of a button.

Since FlexPro is interactive, it provides considerably more convenience and flexibility than a pure programming environment.

The advantages are obvious:

- Access large amounts of data quickly through the use of data queries
- Process your data – even millions of measuring points – with ease and within seconds.
- Centralized core application available to you and your entire team for processing your data.
- Process large volumes of data, limited only by the size of your hard disk.

FlexPro helps to speed up your analysis procedures, gain additional knowledge and streamline your enterprise's processes – an advantage for you and your customers.

- **Automotive industry:** test benches, test runs/test drives, service life of parts
- **Aviation:** develop and maintain of turbines, analyze acceleration signals (vibrations)
- **Rail:** Test runs, vibrations, acoustics and rotating machines
- **Mechanical engineering:** development, testing
- **Electronics:** analyze of electrical signals
- **Defense:** shock response spectra
- **Energy producers:** grid quality (harmonic analysis)
- **Oil and gas:** monitor the condition of compressors and pumps
- **Coal and steel industry:** record quality parameters (statistical process control), quality reporting
- **General use:** develop and test vehicles and construction equipment

Oil and gas

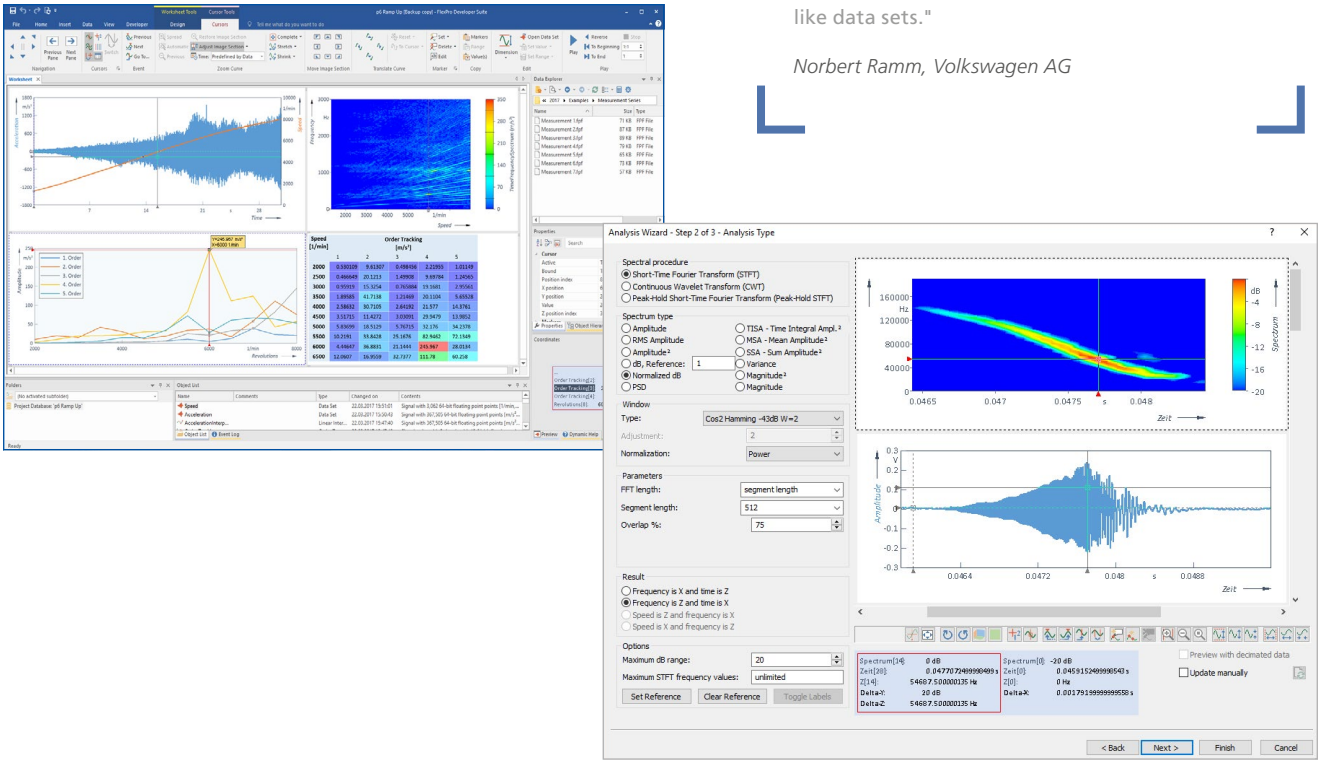
Energy producers

Easy to run

Visualization and analysis at the click of a button

"FlexPro's easy to use, modern user interface and extensive function library are of the highest caliber. The vast number of import and export filters make FlexPro a core application for the analysis of measurement data. For tricky applications, the full accessibility of FlexPro's objects through Visual Basic for Applications is a real innovation! Programming functions are similar to Excel and Word and are very fast, even when dealing with large data volumes. And FlexPro manages your analysis results as dynamic objects which you can use just like data sets."

Norbert Ramm, Volkswagen AG



Speed up your data analyses

FlexPro and all of its features have been designed to make your work easier: from importing your data to interactive analysis using data cursors all the way through to sharing analysis templates with a team.

Discover the new level of speed and ease at which you can organize, analyze and present your measurement data. These are the criteria by which you may measure us.

Just one click and you'll know

The powerful FlexPro data cursors help you see immediately what you measured and extract key information from your data without using mathematics.

The FlexPro project database lets you conveniently and clearly organize your data, analyses and presentation in the familiar Explorer environment.

FlexPro offers you something unique: once you have created your analyses and presentations, you can use them on any number of data sets – without the need for programming!

This is what makes FlexPro the perfect tool for engineers, scientists, and anyone who works with technical data.

FlexPro – designed to make your work easier.

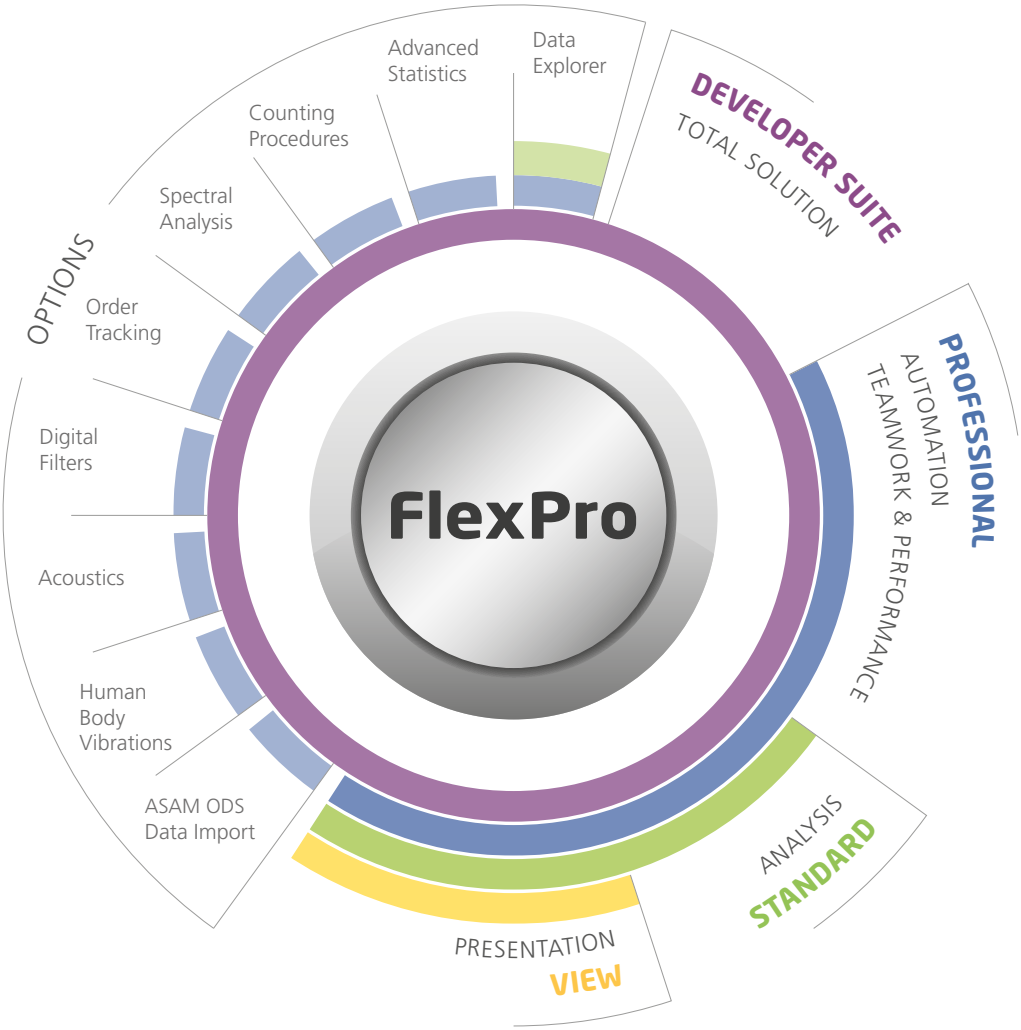
- Redesigned interface with the look and feel of MS Office
- User-friendly project database
- Powerful data cursors
- Easy Excel and database data analysis
- Data search and import for all popular binary formats from measurement systems and data acquisition programs
- Wide selection of pre-defined analyses
- Macro recordings and playback to make your work easier
- Efficient exchange of data due to the variety of export options
- Interface module for LabVIEW and other data acquisition programs

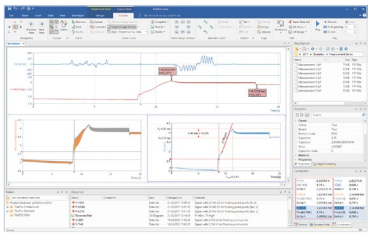
Easy to choose

The right edition for your application

You can choose from different editions of the powerful FlexPro software, giving you the ability to tailor the software package to fit your needs.

Weisang offers you various editions and several Options. Simply choose the right FlexPro edition for you!





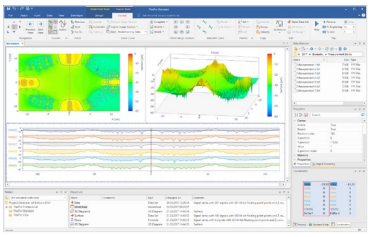
FlexPro VIEW

The perfect solution for presenting data

Create persuasive graphics and documents using FlexPro View.

- The optimized, user-friendly interface makes it easy to design, scale and position your diagrams, tables and text.
- Choose from over 100 types of diagrams, or use drag-and-drop to insert curves and axes.
- An extensive array of cursor functions provide for easy inspection and marking of data.

Data visualization has never been easier! Discover FlexPro now.



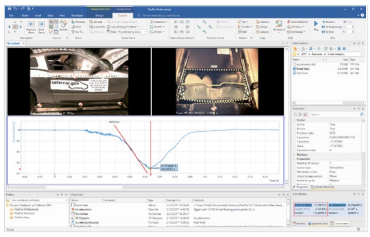
FlexPro STANDARD

The powerful combination of analysis and presentation

FlexPro Standard combines impressive presentation features with a basic set of mathematical analysis functions.

- Use the pre-designed analyses to obtain your data analysis results faster and more reliably at the click of a button.
- Customize the analysis procedure and immediately view its effect on the results.
- Develop your own analysis algorithms in FPScript:

  Over 200 functions and a variety of operators are available to you.



FlexPro PROFESSIONAL

The perfect platform for team collaboration

FlexPro Professional offers you the performance, team functions and scalability you need for professional use:

- Shared template databases to speed up the exchange of information.
- Hardware graphics acceleration, multicore processor support with the ability to run computing operations concurrently to save you valuable time.
- Use the integrated VBA* or a programming language of your choice to automate analyses.
- The scalable FlexPro Professional grows with your tasks thanks to several add-on options.

FlexPro DEVELOPER SUITE

The total solution for your enterprise.

Take advantage of all of FlexPro's features and options at an attractive price.

"It's incredible how fast FlexPro analyzes our test bench data. We are running automated analysis templates written in VBA and FPScript. FlexPro has also quickly become my favorite tool for viewing individual measurements."

Ralf Doering, A. Kayser Automotive GmbH

See for yourself:

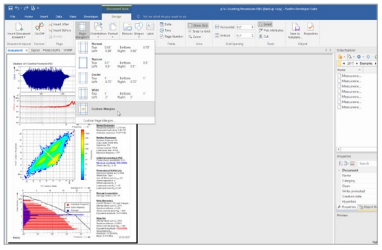
Become a FlexPro expert in 15 minutes.
Download the trial version for free at:
www.weisang.com/flexpro

VBA: Microsoft Visual Basic® for Applications*

Easy to use

FlexPro Features

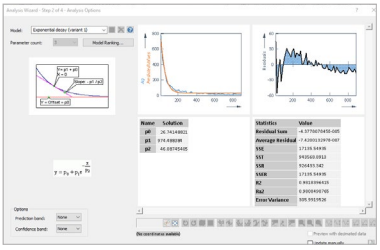
Discover the new features in FlexPro 2017! To ensure that you obtain results even faster and easier than before we have enhanced our successful analysis software to include several new intelligent functions.



Superior performance and user convenience

FlexPro offers you the all the power of technical software with the convenience of an application similar to MS Office.

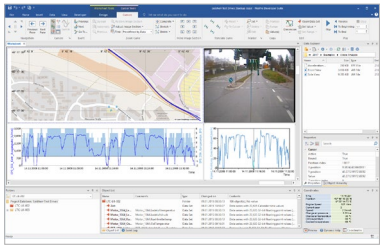
- Take advantage of all the conveniences offered by the redesigned user interface in in FlexPro 2017
- Keep track of your data with FlexPro's practical Preview function.
- FlexPro Professional lets you take full advantage of the power of your multicore CPU.
- Go about your regular work while FlexPro works in the background calculating your analyses.



Analysis und presentation at the click of a button

When using FlexPro to perform analyses, not only are you creating new data from existing data, but you are also building a network extending from the raw data up to the finished report.

- Choose from a variety of pre-defined analyses for all common procedures.
- Modify the analysis procedure and immediately see the effect on the results.
- Program your own analysis procedures in FPScript.
- Work directly with physical quantities composed of a value and unit when carrying out calculations. The FlexPro SI Unit Manager provides correct interpretation and adjustment of units.
- Create diagrams, tables or entire analyses just once – store them as templates and share them with colleagues.

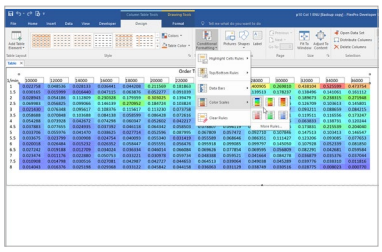


Centralized data management application

No matter which measuring device, measurement hardware or acquisition software you use, FlexPro 2017 makes organizing data extremely easy.

- You can import the binary data of your measurement system directly. FlexPro supports over 60 formats.
- Create schemas for your own custom text data formats using the sophisticated Text Data Wizard.
- Store large volumes of data in the FlexPro project database, limited only by the space on your hard disk.
- Export your results in a variety of different binary and graphic formats.

NEW

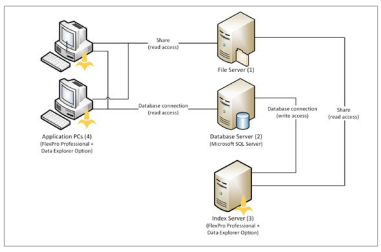


Present impressive results

Use FlexPro's wide range of presentation and style options to highlight key information in your analyses.

- Choose from a variety of diagram and table styles in the clearly arranged galleries.
- Improve the readability of tables by using highlighting and data bar options.
- Combine measurement data with map displays and videos for the best way to present your road test results, for instance.

NEW

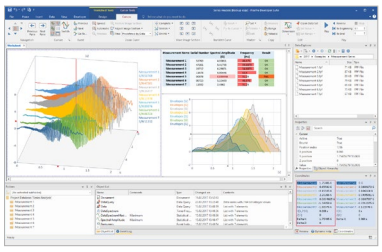


Big Data in Test & Measurement

The FlexPro Data Explorer option indexes measurement data archives on the server or your hard disk. Use configurable queries to search for data attributes and quickly find the data sets you want to analyze.

- Calculate key quantities during indexing and use them for subsequent queries.
- Use attributes and data to search in FlexPro projects on the hard disk or server.
- View statistical information, calculations and a preview of the data immediately without having to import the data first.
- Analyze the identified data directly without having to import it.
- Set up an index server and grant your entire team access to your company's measurement data archives (Microsoft SQL Server license required).

NEW



Dynamic data analysis & presentation

When analyzing test series, the number of data sets to evaluate and results to present vary. The dynamic analysis and presentation features provided by FlexPro make it easy for you to analyze this type of data.

- Instead of creating one analysis per data set, you can create a single analysis that will process all data sets simultaneously.
- Create analyses that are designed for varying numbers of data sets.
- Present your results in diagrams and tables, which can be adjusted dynamically to the number of data sets you want to display.

Easy to customize

The right solution for any task

Every measurement is different. The measurement method, device, object and a large number of other parameters depend on your technical objective. FlexPro lets you choose and combine the particular software Options that you need for your application.

All Options at a glance

- ASAM ODS File Import
- Data Explorer
- Advanced Statistics
- Counting Procedures
- Spectral Analysis
- Order Tracking
- Digital Filters
- Acoustics
- Human Body Vibrations

And if you don't see what you need, contact us to discuss your options. We welcome the opportunity to work with you to develop the right solution to fit your needs.

Option

Data Explorer

The new Data Explorer option indexes the measurement data on your hard disk and provides the data to you for import. View statistical information, calculated quantities, and and a preview of the data immediately without having to import the data first.

Use configurable queries to search for data attributes and quickly find the data sets you want to analyze.

At the click of a button:

- Find data sets with particular attributes and statistical properties in your data collection.
- View previews and statistics even before importing your data.
- Define reusable search filters.
- Import data using drag-and-drop.
- Create queries for data in the project, on the hard disk, or on the server for immediate analysis.
- **NEW:** Calculate key quantities during indexing and use them for subsequent queries.
- **NEW:** Set up an index server and grant your entire team access to your company's measurement data archive (Microsoft SQL Server license required).
- **NEW:** Import long-term measurements that span many files as gapless time series.

Option

ASAM ODS File Import

ASAM ODS is a standard used in the automotive industry for managing test data in a database.

FlexPro's integrated ASAM ODS Browser features convenient access to the ASAM ODS server and to ATF/ATFX data exchange formats.

At the click of a button:

- Display your data clearly in a window.
- Find specific attributes and data quickly and easily.
- Set up your own views of the data pool.
- Import files in ATF/ATFX format.

Option

Advanced Statistics

The Advanced Statistics option offers you a variety of statistical tests and the ability to calculate theoretical distributions. The inductive statistics testing and estimating procedures offer the possibility through the use of samples to classify the population from which these samples originate. An important application for inductive statistics is Statistical Process Control (SPC).

At the click of a button:

- **Goodness-of-fit tests**

  Chi-Square test with adjustable number of classes and Kolmogoroff-Smirnov test for normal and exponential distribution. The error probability can always be adjusted. The parameters for the distributions can be estimated or specified.

- **Outlier correction and outlier tests**

  David-Hartley-Pearson test und Grubbs-Beck test with adjustable error probability.

- **ANOVA**

  Square Sum Of Treatments and Mean Square Sum Of Treatments (SST and MST), Square Sum Of Errors (SSE), Mean Square Sum Of Errors (MSE), Total Square Sum (TSS). The error probability can be specified.

- **Variance tests**

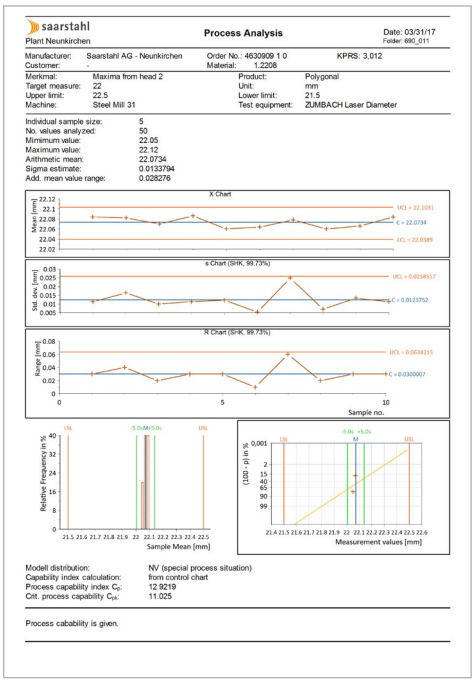
  Bartlett test and F test with adjustable error probability.

- **Distributions**

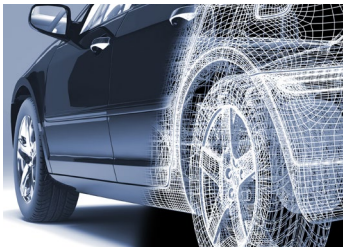
  Continuous distributions: normal, log-normal, exponential and Weibull. Test distributions: Chi-square, student-t and F. Discrete distributions: binomial and Poisson.

- **Confidence intervals**

  For the variance and mean value parameters of the normal distribution for a given confidence level.



...easy to customize



Option

Counting Procedures

Counting procedures have proved to be an invaluable analysis tool, in particular for studying load-time functions. Counting is based on a search for specific events in the load-time function, e.g. a certain load level being exceeded or a load alternation of a certain amplitude. For this purpose, the range of values of the load-time function is divided into discrete intervals, or classes. Each event found is assigned to a class and counted in this class.

You have access to a wide range of counting procedures.

At the click of a button:

- **Matrices**

  Markov matrix and Rainflow matrix in range-mean format as well as symmetrical and symmetrical from/to format. The residual of the Rainflow count can optionally be included in the result.

- **Range filter**

  Suppresses small load changes.

- **Class divisions**

  Automatic, via start and width of class, begin and end, symmetrical or via external data set.

- **Derived collectives**

  Peaks and troughs, positive and negative ranges and range pairs, positive and negative level crossings.

- **Frequencies**

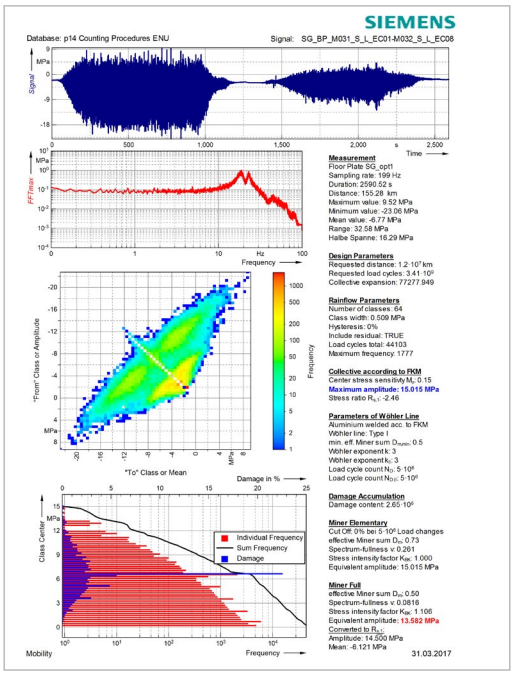
  Absolute, relative, percentage and cumulative.

- **Counting procedures according to DIN 45667**

  Sampling, maximum value and time-at-level.

- **Compound counting procedures according to DIN 45667**

  Sampling, maximum value and time-at-level from two input data sets with separate class division for each data set.



Example of a Rainflow analysis for counting peaks as part of a fatigue analysis

Option

Spectral Analysis

Enter a new world of software engineering and digital signal analysis and save valuable time: The FlexPro Analysis Wizard offers visual feedback at the click of a button when changing algorithms, algorithm parameters, and spectral formats using real time 2D and 3D spectral graphs.

At the click of a button:

- **Quickly locate your signal components**

  Identify the components of complex signals in fractions of a second using: FFT, AR, ARMA and much more.

- **Identify frequency and power using the Fourier spectrum analysis**

  Obtain a complete picture of the frequency signature of a signal using up to five different Fourier spectrum methods.

- **Effortlessly analyze non-stationary data**

  Simultaneously find the time and frequency localization components of a non-stationary periodic signal with Short-Time Fourier Transform or Continuous Wavelet Transform (CWT) methods.

- **Principal component modeling**

  Take advantage of state-of-the art methods for isolating the spectra of the principal components of a signal.

- **Shock Response Spectrum (SRS)**

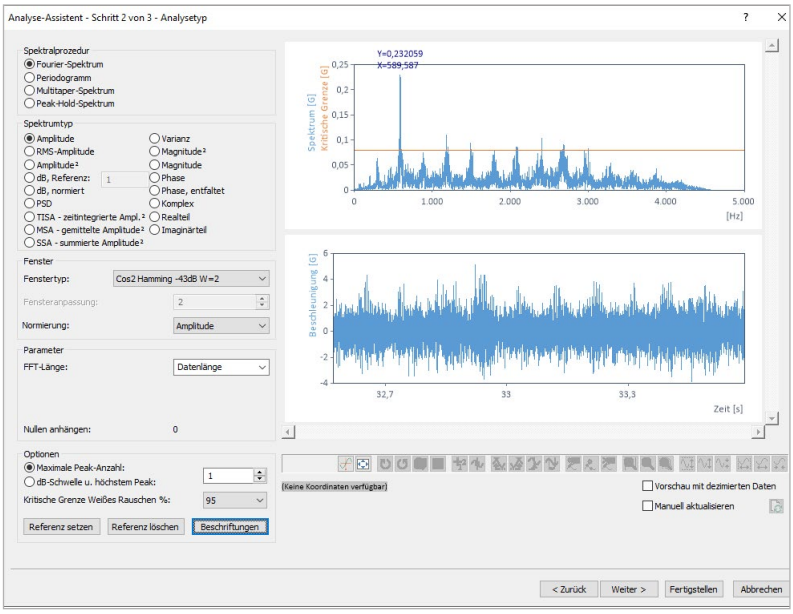
  Use the Shock Response Spectrum (SRS) to estimate the damage potential of mechanical impulses or stationary random vibrations.

- **Harmonic analysis and cepstral analysis**

  Advanced parametric sinusoidal modeling is offered with your choice of frequency estimation methods. Take advantage of state-of-the-art speech analysis and echo detection technology

- **NEW: Instantaneous Quantities**

  Use the Hilbert transform to calculate the instantaneous amplitude, instantaneous frequency and phase.



...easy to customize

Option

Order Tracking

Quickly and easily carry out order tracking for speed-dependent oscillations. During order tracking the oscillation signals measured at a certain speed are subjected to a Fourier transformation (FFT). FlexPro takes the individual spectral lines from the spectrum where the frequency corresponds to a multiple of the base frequency as determined by the speed.

Process data in different data structures: You can either enter multiple individual signals measured at specified revolutions or one ramp-up signal and the synchronously measured speed signal.

The result of the your order tracking analysis is a 3D data set with the amplitudes across the order and frequency or speed, respectively. With the Split Orders Analysis Object, you can divide the result into several 2D data sets, one for each order. You can use the Acceleration Hyperbola Family to compute a 3D data set of acceleration hyperbolas to be displayed in the results diagram.

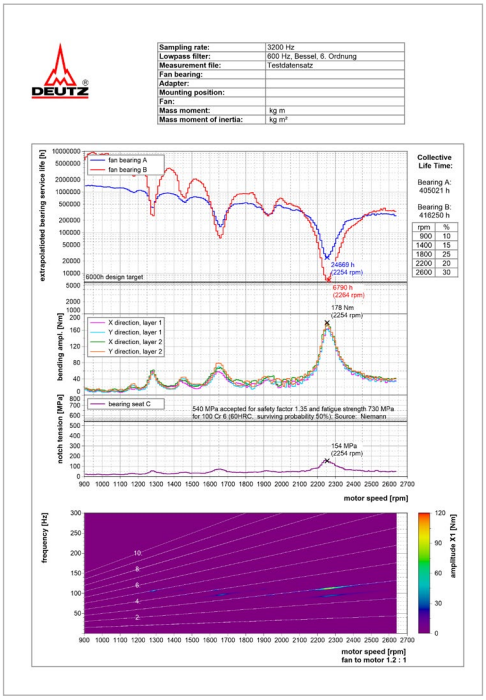
At the click of a button:

- Source data may be based on time or angle.
- Factor for transforming time into RMS can be specified.
- Speed can be specified as an impulse signal. The number of impulses per revolution can be specified.
- When analyzing ramp-up signals, the speeds can be specified or read from an external data set.
- When analyzing individual measurements, the associated speeds can be specified either directly or can be computed from additional signals by averaging.
- Adjustable FFT length, various optional FFT spectra.

Which part of the frequency spectrum belongs to which system component?

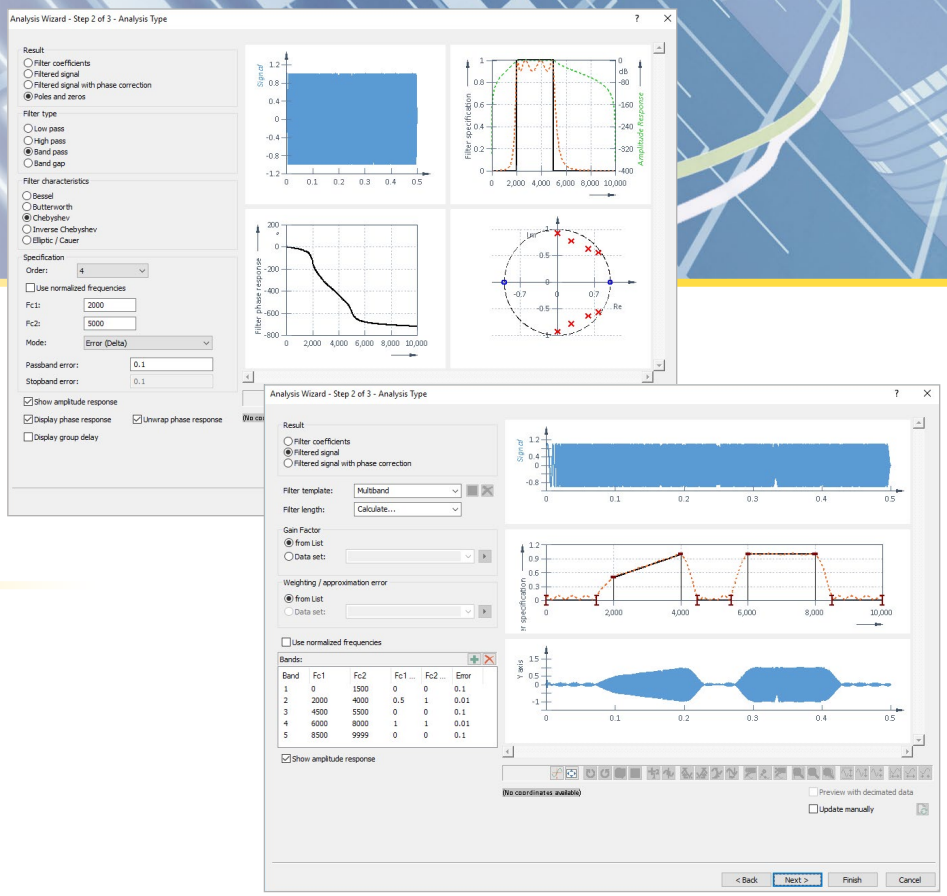
Order tracking provides the correct answer.

- Order, speed, and frequency can be freely assigned to the X and Z components of the data set result. An external data set can act as the source for the X component.
- Splitting of order tracking into multiple individual signals, one for each order.
- Computing of a 3D data set to display a family of acceleration hyperbolas.



Option

Digital Filters



Discover the latest design techniques for easiest operation. The FlexPro Analysis Wizard merges steps for filter design, filtering and presentation into a simple sequential process. Using real-time 2D and 3D graphics, FlexPro offers you immediate visual feedback whenever any change is made to the filter specification.

Enhanced IIR filters

IIR filters include internal feedback (recursive filters) and provide a high degree of steepness with a short filter length, making it possible to design low pass, high pass, bandpass and bandstop filters.

FIR filter design

FIR filters avoid feedback and are therefore always stable. FlexPro offers you two procedures for calculating phase-linear filters with a minimum filter length.

At the click of a button:

- **FIR filter design using the window method**

  Use the Kaiser or Chebyshev windows to specify the filter's length, attenuation and transition width more precisely. You only have to provide two parameters. The third parameter is calculated automatically.

- **FIR filter design using the equiripple method**

  In addition to the standard low pass, high pass, bandpass and bandstop filters, you can use this method to design any type of multiband filter.

- **Smoothing filter**

  Use this filter to smooth signals whose peaks are to be preserved as accurately as possible.

- **CFC filter**

  CFC stands for Channel Frequency Class, a 4-pole phaseless Butterworth filter used primarily for crash tests and implemented in accordance with ISO 6487.

...easy to customize

Option

Acoustics

Determine the sound level and sound power in one easy, automatic step. Analyze multiple channels of sound data and their sound level at the same time and calculate the sound power. FlexPro's Analysis Wizard presents the results in tables and diagrams while you are parameterizing the analysis. Acoustic analysis has never been this easy!

Calibrations made easy

Calibration must be performed to obtain accurate sound levels. You may either specify a fixed calibration value or let FlexPro calculate the calibration value from a calibration signal recorded with the calibrator attached to the microphone.

You may carry out automatic calibration by attaching a calibrator to the microphone prior to the measurement for a few seconds, and then continue with your measurement.

At the click of a button:

- **Accurate time domain octave analysis**

  Octave analysis via time domain filters is required for most acoustics applications. Simply use FlexPro's Analysis Wizard to select the frequency resolution and frequency domain. With a few mouse clicks the wizard produces a complete evaluation.

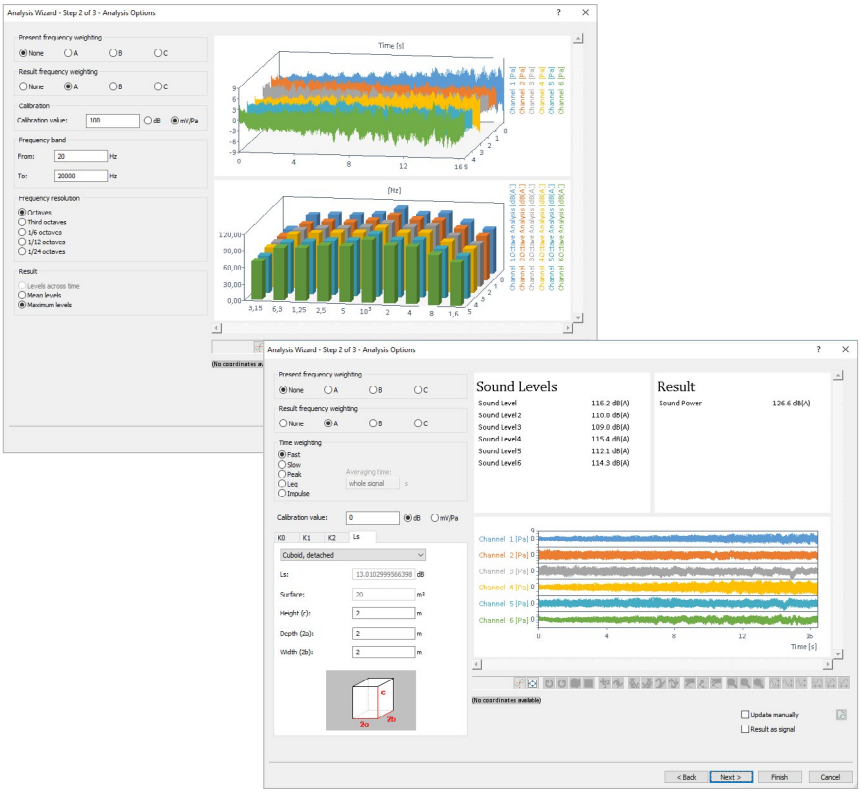
- **Loudness and loudness level**

  The perceived loudness is a psychoacoustic factor and depends not only on the sound pressure level, but also on the frequency spectrum and time response.

FlexPro assists you when applying the Zwicker and Stevens standards.

FlexPro includes standardized acoustic methods:

- Sound power computation
- Sound level evaluation
- Loudness computation
- Octave analysis using time domain filters



Option

Human Body Vibrations

Analyze the effects of vibrations on the human body. For instance, whole-body and hand-transmitted vibrations caused by machine, tool and vehicle vibrations transmitted through the seat or the feet or through the palms and fingers.

Prepare a complete analysis based on the measured acceleration signals with daily exposure—the times until the exposure action value and the exposure limit value are reached—and then click a button to determine whether immediate action should be taken.

At the click of a button:

- Analyze whole-body and hand-transmitted vibrations.
- Evaluate single and triple axis acceleration signals.
- Use pre-defined weighting filters and k-factors for health assessment, comfort, buildings and railway vehicles.
- Create custom weighting filters and k-factors.
- Calculate 12 parameters, including aw, peak value, crest factor, MTVV VDV, eVDV, VDVexp, A(8), duration of exposure action value and exposure limit value.

Wole-Body Vibration
Rail Vehicle Seat

Settings	X direction	Y direction	Z direction
Weighting	Wd	Wd	Wk
k-factor	1.40	1.40	1.00
Integration time [s]	1.00	1.00	1.00
Exposure duration 1 [hh:mm:ss]	01:00:00	01:00:00	01:00:00

Result	X direction	Y direction	Z direction
Frequency-weighted acceleration a_w	0.02966	0.07529	0.03923
Peak of the frequency-weighted signal	0.14281	0.22083	0.32176
Peak factor	4.81448	2.93297	8.20104
Maximum Transient vibration Value MTVV	0.07657	0.11712	0.09223
MTVV / a_w	2.58131	1.55546	2.35062
Vibration Dose Value VDV	0.08793	0.16520	0.13434
VDV / (a_w * $T^{1/4}$)	1.76263	1.30469	2.03605
Estimated Vibration Dose Value eVDV	0.06984	0.17727	0.09237
Daily exposure VDV_{exp}	0.56699	1.06529	0.61877
Daily exposure A(8)	0.01468	0.03727	0.01387
Action value of A(8) reached in [hh:mm:ss]	1159:44:26	179:59:34	1299:15:35
Exposure limit value of A(8) reached in [hh:mm::ss]	6135:01:38	952:09:42	6873:05:02

Overall Result	Value
Vibration total value a_v (maximum)	0.10541
Vibration total value a_v (vector sum)	0.11990
Daily exposure VDV_{exp} (maximum)	1.06529
Daily exposure A(8) (maximum)	0.03727

A(8) < exposure action value (0.5 m/s²)	
Exposure action value (0.5 m/s²) <= A(8) < exposure limit value (1.15 m/s²)	Actions necessary
A(8) >= exposure limit value (1.15 m/s²)	Immediate actions necessary

Easy to experience

Experience the benefits of FlexPro

Richard Weisang, Managing Director

FlexPro – a strategic investment

By purchasing FlexPro, you are investing in the future of your enterprise. Of course, we can't make this decision for you, but our software developers have thought of some features that should make purchasing FlexPro an easy decision to make.

As the core application for processing data, FlexPro integrates easily into your enterprise's IT environment. It is extremely easy to use and offers you a considerable amount of professional features, such as full automation and a variety of options for team collaboration.

Engineering departments, laboratories, medium-size companies, market and technology leaders and a multitude of successful enterprises currently work with FlexPro and have put their trust in the years of experience and commitment of our skilled developer and customer support teams.

Are you interested in meeting with one of our support representatives, attending a training session, receiving technical support or developing a special application? Please feel free to contact us or one of our local resellers. We have the right solution for you.

Choose FlexPro – and turn your data into knowledge.

ABB · AIM · Airbus · Aisin Seiki · Aker Subsea · Alcatel · Alfa Romeo · Alstom · Andritz · AREVA · Aral · Aucoteam · Autoflug · Automobiltechnikum Bayern · AVL List · BASF · Bayer · BMW · Boeing · Bosch · Bridgestone · Brose · Bugatti · Bundeswehr · Caterpillar · Central Research Institute of Electric Power Industry · CERN · Chicago Transit Authority · Claas · Compagnie Gènèrale des Eaux · Continental · Contitect · Dassault · Daewoo Heavy Industries & Machinery · Daihatsu Motor · DaimlerChrysler · DEKRA Automobil Delphi Automotive · DEMAG · Denso · Deutsche Bahn · Deutsche Windguard · Deutz · Diehl & Eagle Picher · DLR · Doosan Babcock · Dornier · EADS · Ebara · EDF · ELASIS · Elf · E.ON Kraftwerke · Iveco Bus · EFM Electronic · Engel · Entergy Operations · ETA · Ferrari F1 Racing Team · FIAT · Ford Motor Company · Fraunhofer Institute · GE Global Research · GE Jenbacher · Getzner Werkstoffe · GIF · Groz-Beckert · Hella · Hilti · Hino Motors · Hitachi · Honda · Honeywell · HSM · Hydac · Hyundai · Infineon · Interroll · ISPESL

FlexPro offers you distinct advantages:

- **Easy rollout and administration**

  Major installations of FlexPro are easy thanks to the automated setup process.

- **Seamless integration into your enterprise's IT systems**

  FlexPro features a wide range of interfaces and full automation capabilities.

- **High user productivity and low training costs**

  Thanks to interactivity and the latest command methods.

- **Results that can be validated**

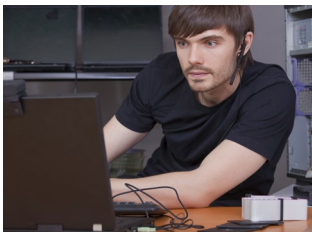
  The methods implemented are based on international science and technology standards and are carefully documented.

- **Cost-effective deployment of FlexPro throughout entire departments**

  We offer flexible license packages as well as network licenses.

"While evaluating several comparable products to display and analyze process data, we decided on FlexPro, especially because of its extensive automation skills. Using .NET add-ons with FlexPro, we develop custom, technology-specific solutions and the like for energy sector users. Only once was there a specific function missing: We contacted the always responsive Weisang customer support, which included some direct contact with the developers, and so far we have been able to get all of the enhancements we've needed within a short amount of time."

Dr. Werner Nadeborn, Aucoteam GmbH Berlin



Italian Army · Italian Navy · Iveco Motorenforschung · IWIS Motorsysteme · Japan Nuclear Cycle Development Institute · JATCO · JFE STEEL · Kaeser · Kampmann · Kjellberg Finsterwalde · Kluxen · Liebherr · Loesche · LTi Drives · Lumberg · MAN · Martin-Baker · MIBRAG · MKS Instruments · MRU · MTU Aero Engines · NuCellSys · Pierburg · Polysius · Polytype · Potain · PSA · Railway Technical Research Institute · Renault-Samsung Motor · Rockwell Collins · RUD · Ruhrgas · Reckmann · RWE · RVI (Renault Industrial Vehicle) · Sab Wabco · Sanden · Sandia National Labs · Scheuch · Schnell Zündstrahlmotoren · Schütz · Schuler Pressen · SGL Carbon · Siemens · SKF Österreich · Sogin · Statoil · Südbayerisches Portland-Zementwerk · Suzuki Motor · Tenneco · Thales · Thyssen Transrapid · Tiefenbach · TI Automotive · TIWAG Tiroler Wasserkraft · TOSOH · Toyota · TRW · TÜV Rheinland · UPM-Kymene · US Air Force · US Navy · Valeo · VA Tech · Visteon · Voith · Volkswagen · Vorwerk · Wacker Chemie · West Japan Railway Company · Yamaha · Yazaki · ZF Sachs

Compare FlexPro Editions

FlexPro offers the right solution for analyzing your measurement data, tailored to your needs. Use the overview to compare the features available in **FlexPro VIEW**, **FlexPro STANDARD**, **FlexPro PROFESSIONAL** and **FlexPro DEVELOPER SUITE**.

Operation

	VIEW	STANDARD	PROFESSIONAL	DEVELOPER SUITE
MS Office compatible user interface	■	■	■	■
Powerful Properties window - View all information and input at once	■	■	■	■
Convenient Wizards - Guide you through a variety of tasks step by step	■	■	■	■
Unique object-oriented structure - Dynamically linked data, analyses and presentations can be updated at the click of a button	■	■	■	■
Wide range of dynamic, easy-to-use analysis objects for all common analyses		■	■	■
Customizable menus and toolbars		■	■	■
User profile management with configurable user permissions		■	■	■
Enhanced Performance - Updating of objects in the background - Speed up processes on multicore systems - Hardware graphics acceleration			■	■
Share templates - Share template databases for presentation templates, analysis templates and unit lists with colleagues			■	■

Data management

	VIEW	STANDARD	PROFESSIONAL	DEVELOPER SUITE
Project database - Size limited only by hard drive space Project database, size limited only by hard drive space, hierarchical structure in folders. - An unlimited number of folders, data sets and other objects - Read-only and lock attributes for individual objects - Any number of parameter lists for data and other objects	■	■	■	■
Data sets - Size limited only by hard drive space - Several data types and structures with up to three components (X, Y, Z).	■	■	■	■
FlexPro Explorer - Everything at a glance: navigate quickly and efficiently	■	■	■	■
Full text search and data queries - Linkable search criteria for text and data - Query data in the FlexPro project	■	■	■	■
Powerful data set editor - Easily edit individual data sets or entire data folders in table view	■	■	■	■

Data management

	VIEW	STANDARD	PROFESSIONAL	DEVELOPER SUITE
File import - Sophisticated wizard for text data (ASCII) in training mode - Import filters for many binary data formats - Copy or create links to original data	■	■	■	■
Data export - Export filters for all popular applications - Special export filters for measurement and test applications	■	■	■	■
Image import - Import filters for all popular graphics file formats	■	■	■	■
Image export - Export filters for all popular graphics file formats - Publish complete analyses as HTML web pages	■	■	■	■
ActiveX-based interface modules - Direct data transfer from LabView and DASYLab into the FlexPro database - Direct support of various data acquisition hardware and software	■	■	■	■

Presentation

	VIEW	STANDARD	PROFESSIONAL	DEVELOPER SUITE
2D and 3D diagram galleries - Several templates, all popular presentations at the click of a button - OpenStreetMap map presentation in the diagram background - Customizable layout/design - Ability to draw and add labels to objects	■	■	■	■
Galleries for column and cell tables - Several templates, all popular presentations at the click of a button - Customizable layout/design - Highlighting and data bars	■	■	■	■
Text object - Formatted text with embedded computational results	■	■	■	■
Document Wizard - Create multi-page reports - Arrange text, graphics and tables individually	■	■	■	■
Presentation and document templates - Use wizards to expand custom objects		■	■	■
Media object - Synchronized analysis of data and video - Assign still images to curves			■	■
Graphic editor - Drawing, labeling, formatting and layout options in diagrams, tables and documents	■	■	■	■

System Requirements

TTo run FlexPro 2017, the system must meet the following minimum requirements: Windows 2008 Server, Windows 2012 Server, Windows Vista Windows 7, Windows 8 or Windows 10 operating system, 1024 MB (2048 MB recommended) RAM and 500 MB of available hard disk space (1 GB recommended).

For users working with very large amounts of data, such as for spectral analysis of acceleration signals, we recommend using FlexPro Professional or Developer Suite Edition on a quad-core or multicore system with 8 GB of RAM, the 64-bit Windows 7 or Windows 10 operating system and a solid state drive (SSD).

Analysis	VIEW	STANDARD	PROFESSIONAL	DEVELOPER SUITE
Well-organized worksheet window - Efficient cursoring on the screen - Window layout options via the wizard	■	■	■	■
Powerful data cursors - Navigating, marking, zooming, scrolling and much more - Available in diagrams, worksheets and documents - Coordinates window for displaying X, Y and Delta values	■	■	■	■
Customizable coordinates window - Additional selectable and programmable coordinates		■	■	■
Curve dimensioning		■	■	■
SI Unit Manager and physical quantities as per ISO 80000 - Expandable unit collection - Computing using units, converting units, selecting the output unit	■	■	■	■
FPScript formula language - Create custom analyses	■	■	■	■
FPScript development environment - Includes convenient code editor and debugger	■	■	■	■
Parallel Loop in FPScript			■	■
FPScript functions - Basic statistics, data import, date & time support and bit extraction	■	■	■	■
Over 200 additional FPScript functions - Data manipulation, signal analysis, statistics, filtering, smoothing, curve fitting, event isolation and much more		■	■	■
Custom FPScript functions - Set of functions to enhance your own evaluation methods		■	■	■
Convenient Analysis Wizard - Analysis und presentation at the click of a button		■	■	■
Create your own analysis templates - Create custom analyses, expand the capabilities of the Analysis Wizard		■	■	■
Powerful non-linear curve fitting - More than 130 models - Create custom modules using FPScript		■	■	■
Analysis objects for: - Curve fitting, signal analysis, statistics, spectral analysis, event isolation, filtering and counting		■	■	■

Options	VIEW	STANDARD	PROFESSIONAL	DEVELOPER SUITE
Statistics - ANOVA, goodness-of-fit test, outlier test, confidence interval, distribution and density functions			○	■
Counting Procedures - Rainflow procedure, Count and Compound Count according to DIN 45667			○	■
Order Tracking - For individual time and angle-based measurements and for ramp-ups			○	■
Spectral Analysis - Fourier, AR/ARMA, Time-Frequency, Wavelet, Harmonic Analysis, Cross-Spectra, SRS			○	■
Human Body Vibrations - Whole Body Vibrations and Hand- Transmitted Vibrations in accordance with ISO 2631, ISO 5349 and the 2002/44/EC directive			○	■
Acoustics - Sound power, sound level, octave analysis, loudness and loudness level			○	■
Digital Filters - IIR and FIR filter design, smoothing, CFC filter			○	■
ASAM ODS File Import - Import of ASAM ODS server and ATF/ATFX file data			○	■
Data Explorer - Fast searching, previewing and importing of data - Query data on the hard disk		○	○	■
- Query data on the server - Index server (MS SQL Server license required)			○	■

Automation	VIEW	STANDARD	PROFESSIONAL	DEVELOPER SUITE
DCOM interface DLL - Access to FlexPro project databases	■	■	■	■
Automation Object Model - Expansion or remote control of FlexPro via Visual Basic, C#, C++ or other programming languages	■	■	■	■
Macro recorder - Easily record, run and organize macros - Quick Macro function for quick automation	■	■	■	■
Integrate macros into the user interface		■	■	■
Microsoft Visual Basic for Applications (VBA) - Complete development environment including IntelliSense® code editor, dialog box editor, debugger and project management. - Program applications based on FlexPro, including customized user interfaces and custom import filters.			■	■

■ included
○ optional

Detailed information is available at:
www.weisang.com/flexpro

Dated 4/21/2017, Subject to errors and changes.

FlexPro 2017

Data Analysis & Presentation

Quickly and easily organize, analyze and graph data

Do you regularly develop products and technologies for future use? Will your research results have a profound effect on our future? Are you responsible for reliably tested innovations?

Your data needs to be reliable to keep your work and enterprise successfully on track. And even more importantly, you need a reliable tool to convert your data into useful information.

FlexPro is the powerful, intuitive software application for analyzing and presenting your data and excels particularly well in analyzing dynamic processes.

Take advantage of the latest analysis procedures in the fields of science and technology. Process millions of measurement values in seconds. Unleash the full power of your multicore CPU!

Search through large amounts of data lightning fast and create analyses for multichannel measurements and test series.

FlexPro 2017 helps you maintain control of your data. New features in FlexPro 2017:

- Redesigned user interface with Microsoft Office-like ribbon
- Diagram and table style options with format templates and color schemes
- Highlighting and data bars in tables
- Dynamic diagrams and tables for evaluations with varying numbers of data sets
- New, sophisticated text import feature
- File indexing in client/server mode

Easy to try

Get to know FlexPro in just 15 minutes!

Free trial version including online user guide at:

www.weisang.com/flexpro

Your FlexPro sales partner:

WEISANG

Weisang GmbH

Sophie-Krämer-Str. 13
66386 St. Ingbert
Germany

Phone: +49 (6894) 92960 0
Fax: +49 (6894) 92960 26

E-mail: info@weisang.com

www.weisang.com