

# FlexPro 9

## Presentation & analysis at the click of a button

Quickly and easily organize, analyze and present data

**The next generation:**  
Share templates over your  
network and save time.

# Choose FlexPro

## And turn data into knowledge

What happens during a crash test? 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.

### FlexPro 9 – the next generation: Share data

Since its introduction in 1991, 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.

FlexPro 9 goes even one step further. Not only will you be able to organize, analyze and present your data in the future by just clicking a button; if you want to, you will also be able to share your templates and results among colleagues on your network just as quickly and easily.

### Easy to organize and share ...

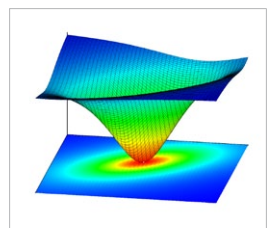
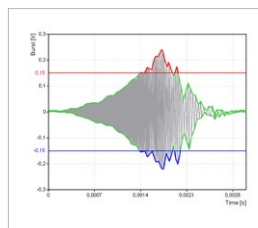
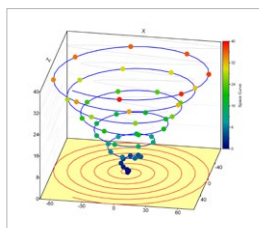
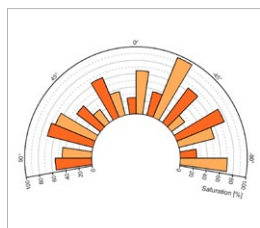
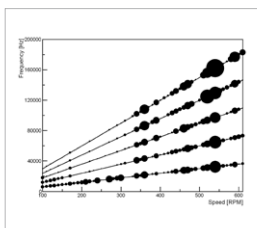
- Import your data in all popular formats (such as Excel, ASCII, database and measurement system/acquisition software binary file formats).
- Clearly and reliably manage all of your data and projects in the centralized project database.
- Speed up the exchange of information – share your templates with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

### Easy to analyze ...

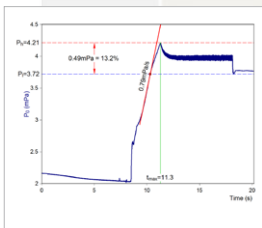
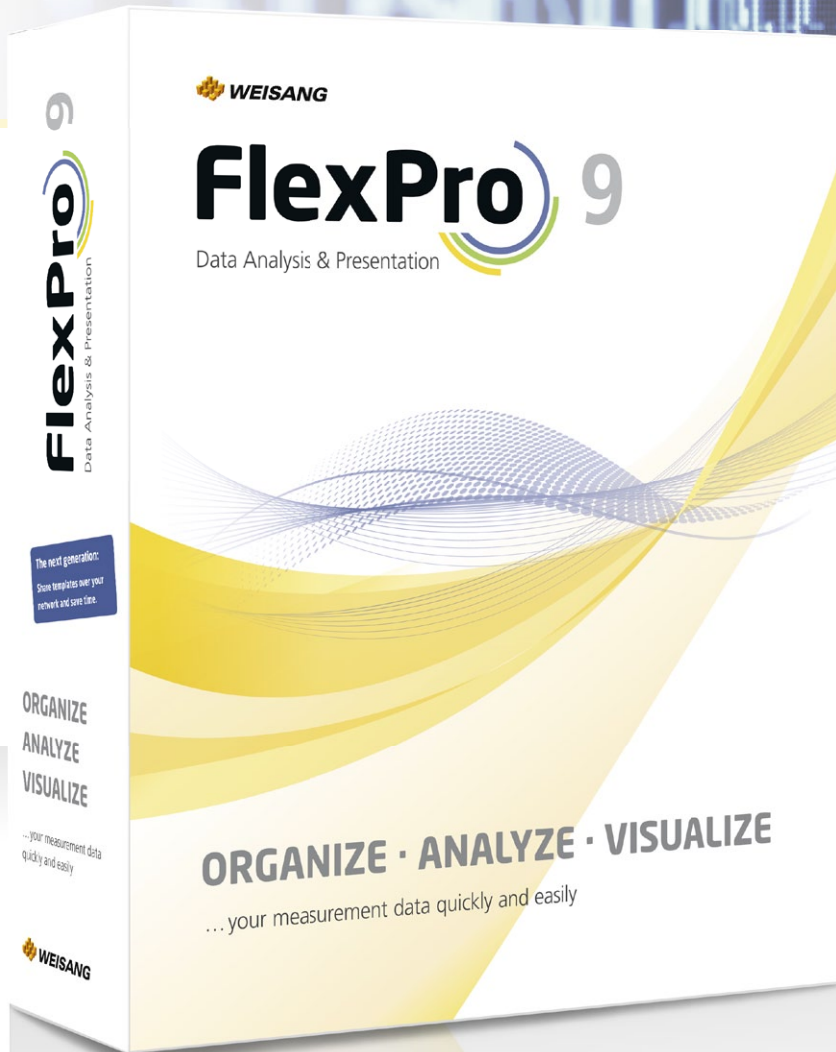
- Start analyzing your data at the click of a button.
- Ensure the units are correctly interpreted and adapted using the new SI Unit Manager.

### Easy to visualize ...

- Create custom templates for analysis and presentation.
- Analyze synchronously recorded audio, video and measurement data using the new Media presentation object.



FlexPro 9 presentation and analysis examples



#### ➤ Easy and powerful:

#### **FlexPro 9 offers many new features**

Speed up your data analyses

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! With several new functions, FlexPro 9 offers you even more productivity, performance and interactivity.

#### **New features in FlexPro 9:**

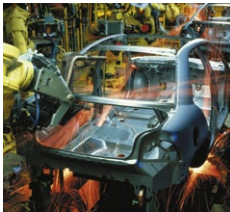
- Use the SI Unit Manager for reliable results.
- Save your analyses and presentations as templates.
- Share templates over your network.
- Analyze data and video synchronously.
- Fully utilize the power of multicore CPUs.

Detailed information:

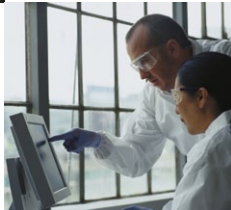
[www.weisang.com/flexpro](http://www.weisang.com/flexpro)

# Easy to deploy

## FlexPro - for dynamic operations



Improve quality



Gain additional knowledge



Develop products



Determine product lifespan



Optimize processes



Put ideas into practice



Simulate loads

"By choosing FlexPro, we were able to reduce development costs considerably for analyzing simulation data from grid calculations. 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 fondly quoted phrase 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 hits a wall during a crash test, signals are produced with millions of measuring points – and 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:

- Process your data – even millions of measuring points – with ease and within seconds.
- Core data processing application for you and your team.
- 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 drives / vehicle testing, service life of parts
- **Aviation:** development and maintenance of turbines, analysis of acceleration signals (vibrations)
- **Rail:** test runs, vibrations, acoustics and rotating machines
- **Mechanical engineering:** development, testing
- **Electronics:** analysis of electrical signals
- **Defense:** shock response spectra
- **Energy industry:** grid quality (harmonic analysis)
- **Coal and steel industry:** record quality parameters (statistical process control), quality reporting
- **General use:** development and testing of vehicles and construction equipment



Use resources efficiently



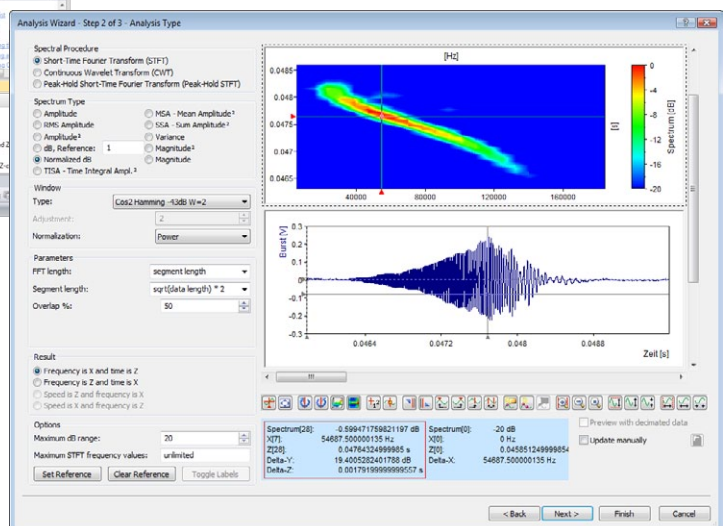
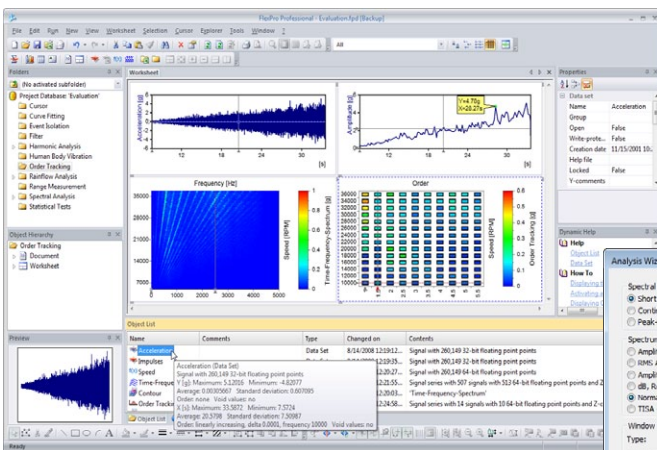
Promote technologies

# Easy to run

## Visualization and analysis at the click of a button

"FlexPro's easy to use, modern user interface, and extensive function library available are first class. 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 we measure ourselves.

### Just one click and you'll know

FlexPro offers you something unique: you can manage all of your analyses and presentations as a dynamic object network, so each analysis you create can be used on any number of data sets – without the need for programming!

The key is the powerful FlexPro project database where you manage all of your data, analyses and presentations. Within the familiar Explorer environment, you can import and organize data from practically any source, then analyze it and view your results. It's fast, easy and reliable.

This is what makes FlexPro the data analysis and presentation software of choice for engineers, scientists, and anyone who works with technical data.

### FlexPro – designed to make your work easier

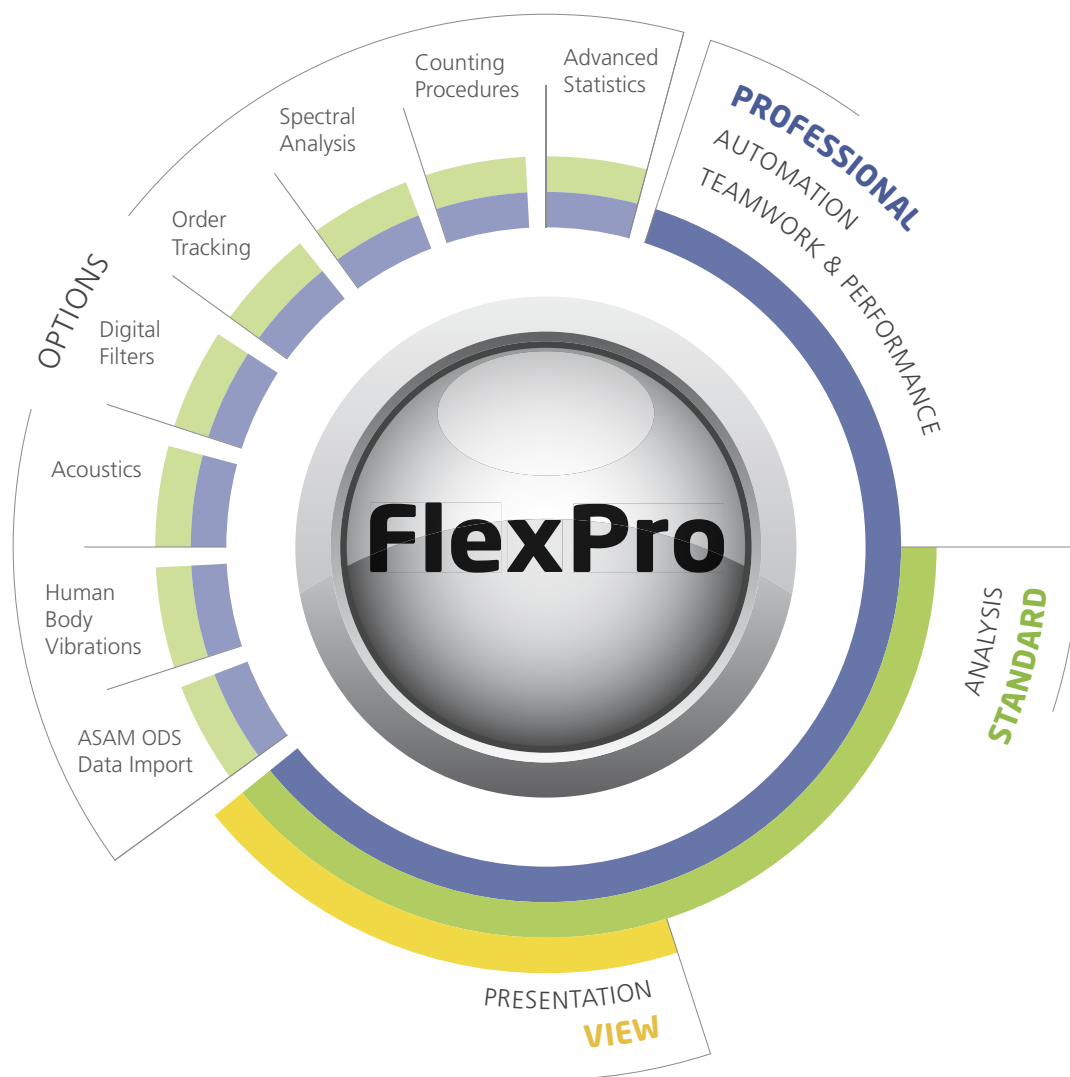
- Intuitive, object-oriented interface
- User-friendly project database
- Time-saving hierarchy view and preview pane
- Easy Excel and database data analysis
- Macro recordings and playback to make your work easier
- Direct data import for all popular binary formats from measurement systems and data acquisition programs
- Smooth text import via the Text Data Import Wizard
- Efficient exchange of data due to the variety of export options
- LabVIEW, DASyLab and Agilent VEE interface modules

# Easy to choose

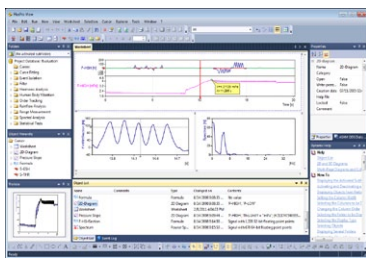
## The right edition for your application

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

Weisang offers various editions and several add-on modules to fit your needs. Which FlexPro edition is right for you?







## FlexPro VIEW

The ideal solution for presenting data

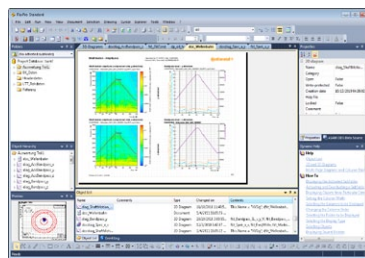
Create persuasive graphics and documents using FlexPro View. The optimized, user-friendly interface makes it easy to design, scale and position your diagrams, tables and text.

- Choose from over 100 types of diagrams, or use drag-and-drop to insert curves and axes.
- An extensive array of cursor options provide for easy inspection and marking of data.

Data visualization has never been easier! Discover FlexPro now.

"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

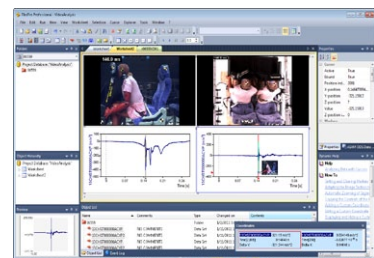


## FlexPro STANDARD

The powerful combination of analysis and presentation

FlexPro Standard combines impressive presentation features with powerful, mathematical analysis functions.

- Use the pre-designed analysis objects 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 total solution for your enterprise

In addition to the wide range of presentation and analysis functions, FlexPro Professional now offers the following features:

- Shared template databases to speed up the exchange of information.
- Full compatibility with multicore processors with the ability to parallelize computing operations to save you valuable time.
- Use of the integrated VBA or a programming language of your choice to automate analyses.

The integrated VBA\* development environment provides the following advantages:

- Easily create your own applications.
- Seamless integration into your acquisition program and connection to your enterprise's IT system.
- Integrated debugger and code editor with IntelliSense® technology.

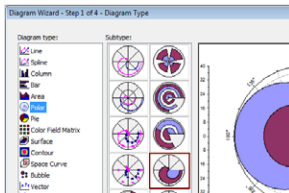
### See for yourself:

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

# Easy to use

## FlexPro features

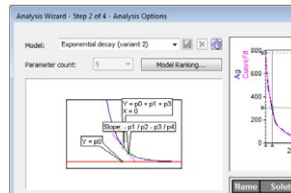
Discover the new features in FlexPro 9! We have expanded our successful analysis software to include several new intelligent functions to ensure that you obtain results even faster and easier than before.



### Highest level of user convenience

Take advantage of a new level of productivity, performance and interactivity when analyzing your measurement data.

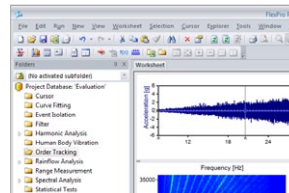
- Enjoy the convenience and time savings with an intuitive, object-oriented interface.
- Take advantage of the latest user options such as drag-and-drop, multiple undos and convenient wizards.
- Save time on annoying searches, move and reduce the size of objects using the practical tabs available on all object windows.



### Analysis and 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 consisting of raw data all the way through to the finished report.

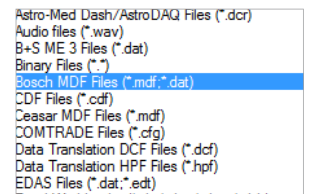
- Choose from a variety of analyses objects for all common procedures.
- Easily modify the algorithms in dialog boxes and immediately see the results.
- Program your own analysis procedures in FPScript with over 200 analysis functions and a wide range of operations to choose from.
- Create reports that include diagrams, tables and text, and reuse your analyses for additional measurements.



### Centralized data management application

No matter which measuring device, measurement hardware or acquisition software you use, FlexPro 9 makes organizing data extremely easy.

- Use FlexPro Explorer to centrally organize and manage all data and analyses.
- Store large volumes of data in the FlexPro project database, limited only by the space on your hard disk.
- Use FlexPro to combine data from a wide range of different sources and process the data in one central application.



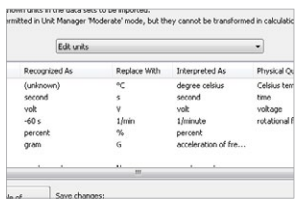
### Many import and export filters

Seamlessly integrate FlexPro into your system. A wide variety of import and export filters makes it possible for you to import data from almost any source or to output the data in the format you choose.

- Import and open the data directly from Excel for further manipulation using the full power of FlexPro.
- Use the convenient Text Data Import Wizard to import ASCII data. Register your own text data formats and then import them automatically.
- Gain the most flexibility when exporting data by using the variety of export filters for binary data and graphics formats.



**NEW**

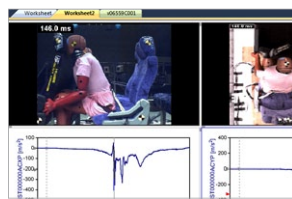


**Obtain reliable results using the SI Unit Manager**

FlexPro 9 has solved one of the greatest problems related to processing data of physical quantities: correct interpretation and adjustment of the units in which your data appears.

- Work directly with quantities composed of a value and unit when carrying out calculations.
- Find errors resulting from the use of different units.
- Choose the unit for the data presentation regardless of the unit in which the data was measured.
- Register your own units and ensure they are interpreted correctly.

**NEW**

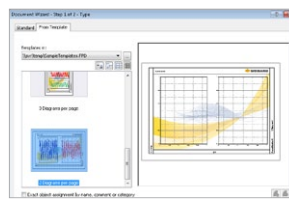


**Analyze synchronously captured video and data**

Audio and video data is now frequently synchronized with measurement data. Use FlexPro's new Media object as a powerful tool to analyze these types of data in sync.

- Place the data cursor on a curve and view the corresponding still images.
- Play a video and watch how the data cursor synchronously moves over the measured data.
- Highlight key events in the curve using the relevant still images.
- Easily synchronize videos that have different starting times and frame rates with your measurement data.

**NEW**

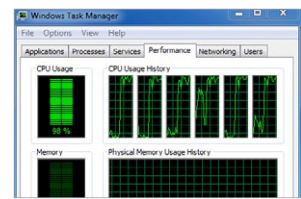


**Create individual templates, share data.**

Networking with colleagues receives top priority in research and development in particular. FlexPro 9 now offers you the ability to share your pool of information with your colleagues within seconds.

- Create your analysis as an object network consisting of raw data right through to the finished report.
- Store diagrams, tables or entire analyses created just once and share them with colleagues as needed.
- Speed up the exchange of information within your team.

**NEW**



**Faster results with FlexPro Professional**

Speed is king – particularly when it comes to analyzing large volumes of data. Stay ahead of the game by using FlexPro Professional.

FlexPro Professional automatically splits up computing operations so they can run simultaneously on different CPU cores.

- Utilize the full processing power of your multicore CPUs.
- Run your analyses at maximum speed.
- Go about your work while FlexPro works in the background to calculate your analyses.

# 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 modules that you need for your application.

### All add-on modules at a glance

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

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

### Add-on module

## 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.

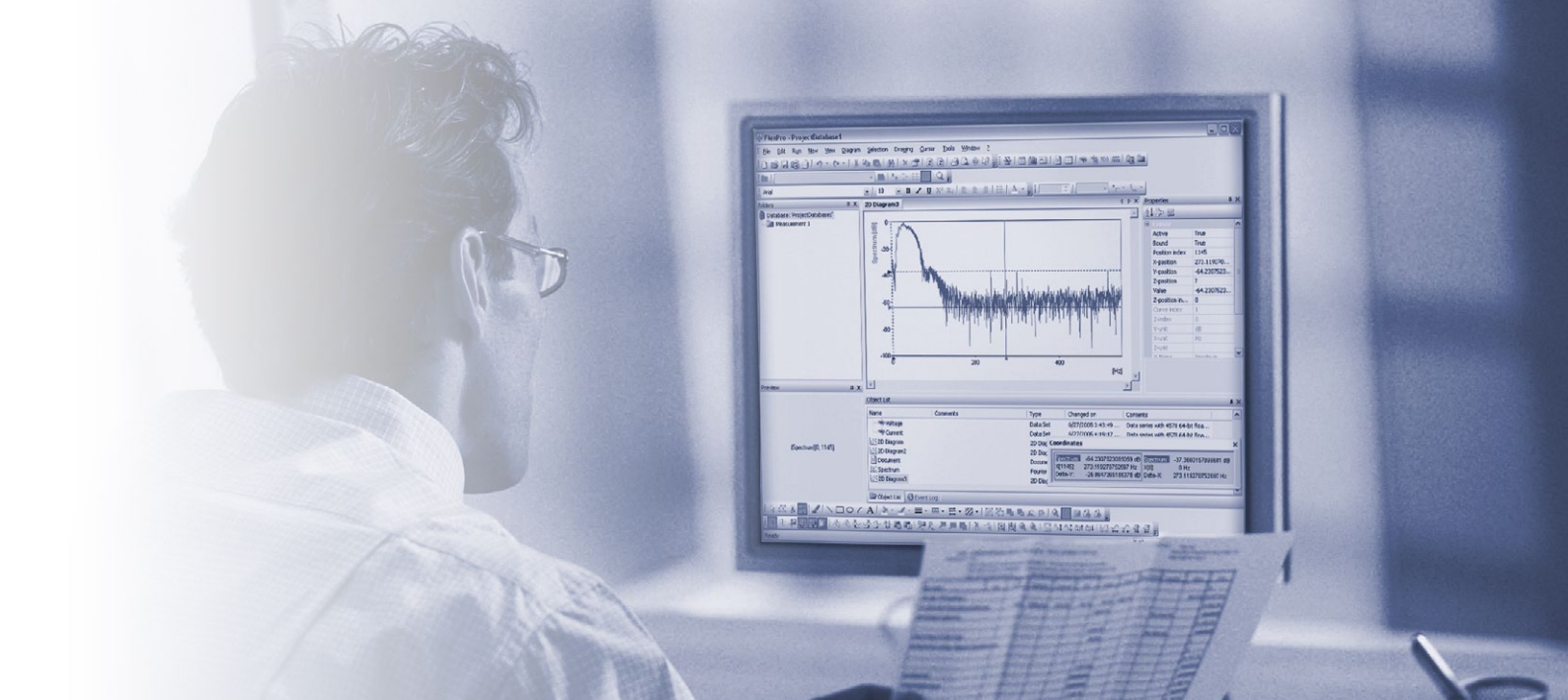
### At the click of a button:

- Display your data clearly in a window.
- Find specific attributes and data quickly and easily.
- Set up your own views of the data pool.

"For my PhD dissertation on the dynamic properties of rock, I worked with Professor William Hustruuld of the University of Utah who has been working in this area since the 1970s. We used a Split Hopkinson Pressure Bar (SHPB) apparatus to test the rock specimens. We recorded the data using a high speed data acquisition system, but collecting the data was just half the battle. The other problem was reducing the amount of data.

Dr. Hustruuld and I were amazed at how easily we could process the data with FlexPro, which is now the main software tool we use to reduce our SHPB data."

*Jeff Johnson  
National Institute for Occupational Safety & Health  
Spokane Research Laboratory*



Add-on module

## 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

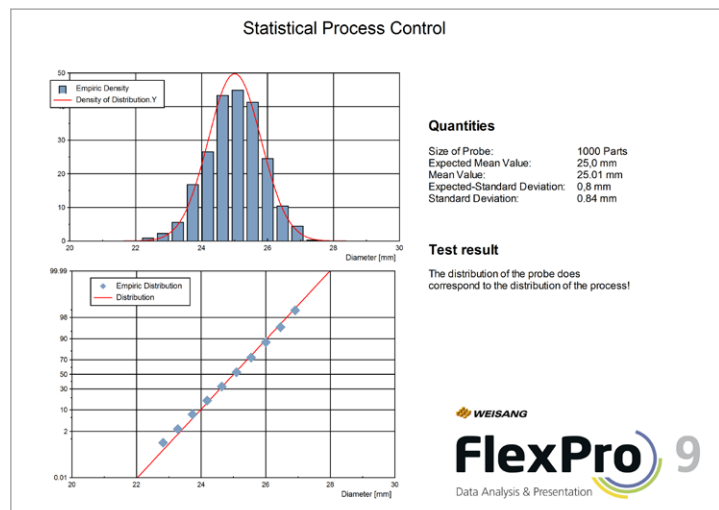
Bartlett test and F test with adjustable error probability.

- 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

Add-on module

## 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 asymmetrical from/to format. The residual of the rainflow count can optionally be included in the result.

- **Range filter**

To suppress 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**

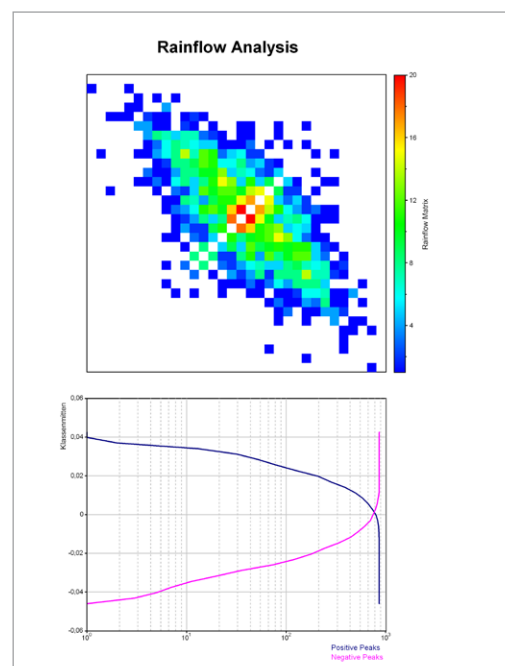
Absolute, relative, percentage and cumulative.

- **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



Add-on module

## Spectral Analysis

Enter a new world of digital signal analysis and save valuable time: The new FlexPro 9 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

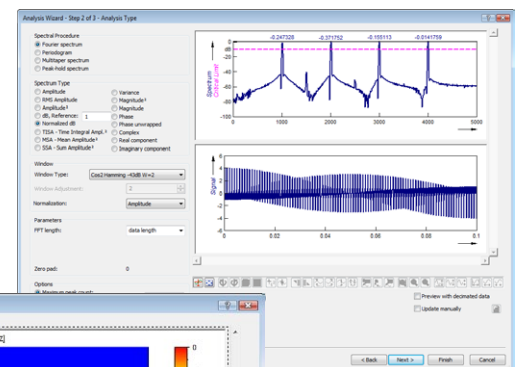
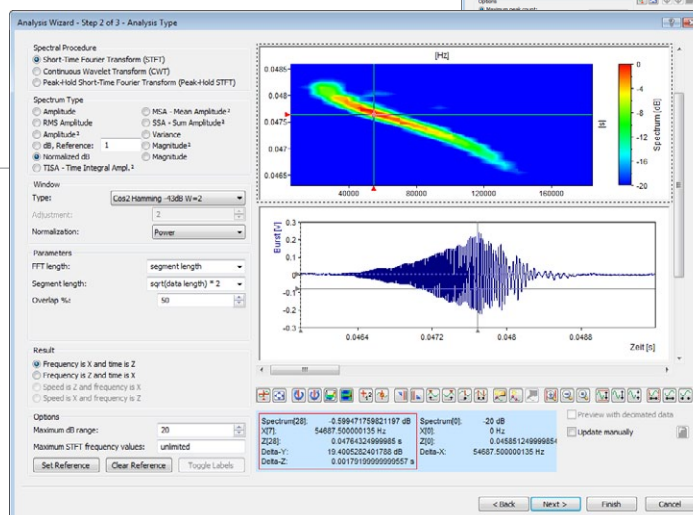
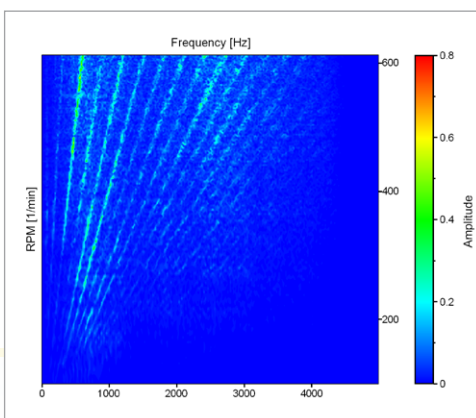
Take advantage of state-of-the-art methods for isolating the spectra of the principal components of a signal.

- 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.



# ... easy to customize

Add-on module

## 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 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 Family of Acceleration Hyperbolas Analysis Object to compute a 3D data set of acceleration hyperbolas to be displayed in the results diagram.

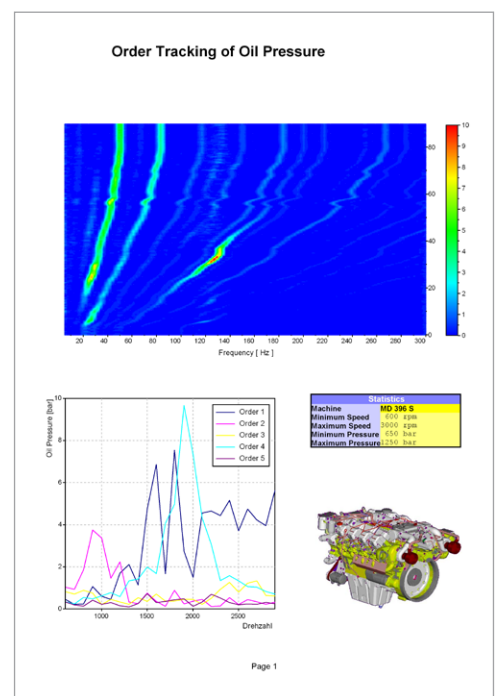
At the click of a button:

- 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.

- 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.

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

*Order tracking provides the correct answer.*





Add-on module

## 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.

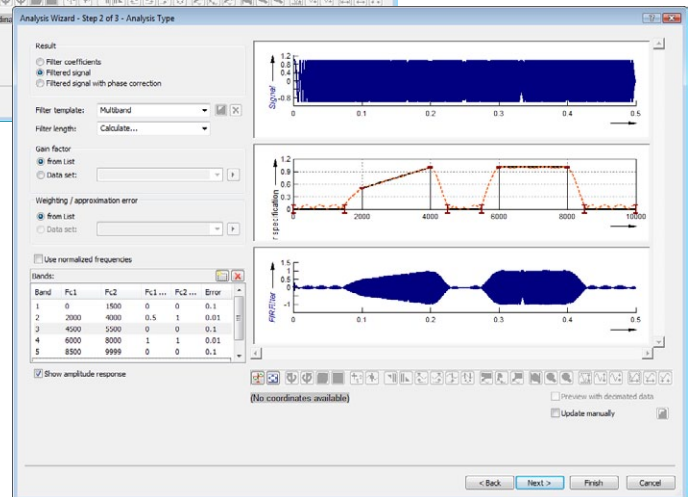
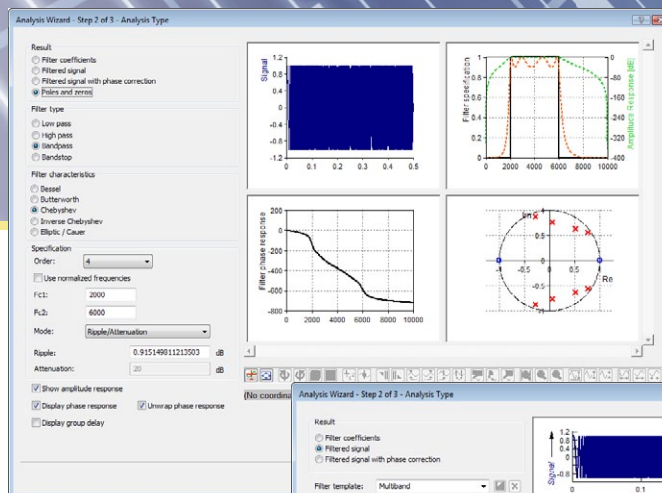
### FIR filter design

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 testing and implemented in accordance with ISO 6487.

# ...easy to customize

Add-on module

## 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.

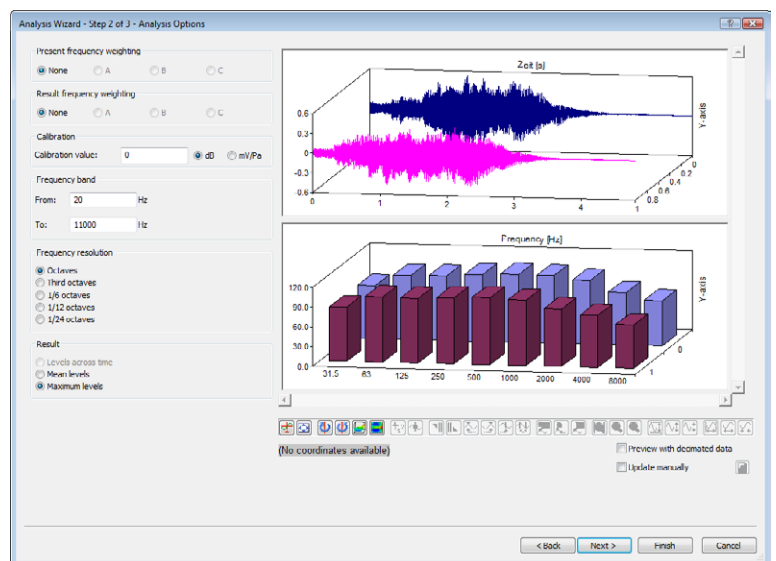
- **Loudness and loudness level**

The perceived loudness is a psycho-acoustic 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 offers standardized acoustic methods:

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



## Add-on module

# 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.

- Use custom weighting filters and k-factors.
- Calculate 12 parameters, including  $a_w$ , peak value, crest factor, MTVV VDV, eVDV, VDVexp, A(8), duration of exposure action value and exposure limit value.



### Whole-body vibration Analysis

Comfort - Seat

Settings	X-direction	Y-direction	Z-direction
Weighting	Wd	Wd	Wb
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 $a_w$ [m/s <sup>2</sup> ]	0.28748	0.28580	0.46766
Peak of the frequency-weighted signal [m/s <sup>2</sup> ]	1.49989	1.19095	1.98446
Peak factor	5.21738	4.16704	4.24343
Maximum Transient vibration Value MTVV [m/s <sup>2</sup> ]	0.61594	0.57736	0.80819
MTVV / $a_w$	2.14255	2.02016	1.72817
Vibration Dose Value VDV [m/s <sup>7/4</sup> ]	2.93070	2.91730	4.75987
VDV / ( $a_w \cdot T^{1/4}$ )	1.31610	1.31777	1.31399
Estimated Vibration Dose Value eVDV [m/s <sup>7/4</sup> ]	3.11753	3.09933	5.07142
Daily exposure VDV <sub>exp</sub> [m/s <sup>7/4</sup> ]	4.10298	4.08422	4.75987
Daily exposure A(8) [m/s <sup>2</sup> ]	0.14230	0.14146	0.16534
Action value of A(8) reached in [hh:mm:ss]	12:20:49	12:29:33	9:08:42
Exposure limit value of A(8) reached in [hh:mm:ss]	12:10:52	12:09:52	10:27:25

Overall Result	Value
Vibration total value $a_v$ (maximum) [m/s <sup>2</sup> ]	0.46766
Vibration total value $a_v$ (vector sum) [m/s <sup>2</sup> ]	0.73538
Daily exposure VDV <sub>exp</sub> (maximum) [m/s <sup>7/4</sup> ]	4.75987
Daily exposure A(8) (maximum) [m/s <sup>2</sup> ]	0.16534

A(8) < exposure action value (0.5 m/s <sup>2</sup> )	
Exposure action value (0.5 m/s <sup>2</sup> ) <= A(8) < exposure limit value (1.15 m/s <sup>2</sup> )	Actions necessary
A(8) >= exposure limit value (1.15 m/s <sup>2</sup> )	immediate actions necessary

# Easy to experience

## How FlexPro 9 can benefit your enterprise



### 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 diverse options for work in teams.

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  
Compagne G n rale des Eaux · Continental · Contitect · 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  
irisbus · EFM Electronic · Engel · Entergy Operations · ETA · Ferrari F1 Racing Team · FIAT · Ford Motor Company · Fraunhofer Institute · GE Global Research GE Jenbacher  
General Electric · Getzner Werkstoffe · GIF · Groz-Beckert · Hella · Hilti · Hino motor · Hitachi · Honda · Honeywel · HSM · Hydac · Hyundai · Infineon · Interroll · ISPEStItalian

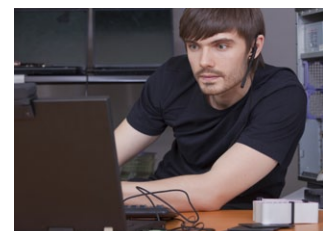


**FlexPro offers you distinct advantages:**

- **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 options. Using .NET add-ons with FlexPro, we develop custom, technology-specific solutions and the like for energy sector users. When we needed a particular function, we simply 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*



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 · Max Holder · MIBRAG · MKS Instruments · MRU · MTU Aearo 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 · Südbayerische  
 Portland-Zementwerk · Suzuki Motor · Tenneco · Thales · Thyssen Transrapid · Tiefenbach · TI Automotive · TIWAG Tiroler Wasserkraft · TOSOH · Toyota · TRW · T&V 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** and **FlexPro PROFESSIONAL**.

**VIEW**  
**STANDARD**  
**PROFESSIONAL**

## Operation

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

## Data management

	VIEW	STANDARD	PROFESSIONAL
<b>Project database</b> - Size limited only by hard drive space - Hierarchical folder structure - 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	■	■	■
<b>Data sets</b> - Size limited only by hard drive space - Several data types and structures with up to three components (X, Y, Z).	■	■	■
<b>FlexPro Explorer</b> - Everything at a glance: navigate quickly and efficiently	■	■	■
<b>User-friendly search function</b> - Linkable search criteria for text and data	■	■	■
<b>Powerful data set editor</b> - Easily edit individual data sets or entire data folders in table view	■	■	■

## Data management

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

## Presentation

	VIEW	STANDARD	PROFESSIONAL
<b>2D and 3D diagram wizard</b> - Several templates, all popular presentations at the click of a button - Customizable layout/design - Ability to draw and add labels to objects	■	■	■
<b>Wizard for column and cell tables</b> - Several templates, all popular presentations at the click of a button - Customizable layout/design	■	■	■
<b>Text object</b> - Formatted text with embedded computational results	■	■	■
<b>Document Wizard</b> - Create multi-page reports - Arrange text, graphics and tables individually	■	■	■
<b>Presentation and document templates</b> - Enhance the wizards with your own objects	■	■	■
<b>Media object</b> - Synchronized analysis of data and video - Assign still images to curves	■	■	■
<b>Graphic editor</b> - Drawing, labeling, formatting and layout options in diagrams, tables and documents	■	■	■

## System requirements

To run FlexPro 9, the system must meet the following minimum requirements: Windows 2003 Server, Windows 2008 Server, Windows XP, Windows Vista or Windows 7 operating system, each with the current service pack installed, Pentium processor (Dual Core recommended), 512 MB RAM (1024 MB recommended) or 1024 MB (2048 MB recommended) under Windows Vista and Windows 7 and 300 MB (1 GB recommended) of free hard disk space.



VIEW  
STANDARD  
PROFESSIONAL

## Analysis

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

## Options (add-on modules)

<b>Statistics</b> - ANOVA, goodness-of-fit test, outlier test, confidence interval, distribution and density functions		○	○
<b>Counting Procedures</b> - Rainflow procedure, Count and Compound Count according to DIN 45667		○	○
<b>Order Tracking</b> - For individual time and angle-based measurements and for ramp-ups		○	○
<b>Spectral Analysis</b> - Fourier, AR/ARMA, Time-Frequency, Wavelet, Harmonic Analysis, Cross-Spectra, SRS		○	○
<b>Human Body Vibrations</b> - Whole Body Vibrations and Hand- Transmitted Vibrations in accordance with ISO2631, ISO5349 and the 2002/44/EC directive		○	○
<b>Acoustics</b> - Sound power, sound level, octave analysis, loudness and loudness level		○	○
<b>Digital Filters</b> - IIR and FIR filter design, smoothing, CFC filter		○	○
<b>ASAM ODS File Import</b> - Import of ASAM ODS server and ATF/ATFX file data		○	○

## Automation

<b>DCOM interface DLL</b> - Access to FlexPro project databases	■	■	■
<b>Automation Object Model</b> - Expansion or remote control of FlexPro via Visual Basic, C#, C++ or other programming languages	■	■	■
<b>Macro recorder</b> - Easily record, run and organize macros - Quick Macro function for quick automation	■	■	■
<b>Integrate macros into the user interface</b>		■	■
<b>Microsoft Visual Basic for Application (VBA)</b> - 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](http://www.weisang.com/flexpro)

# FlexPro 9

## Quickly and easily organize, analyze and present 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 9 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!

With many new features, FlexPro 9 offers you even more productivity, performance and interactivity.

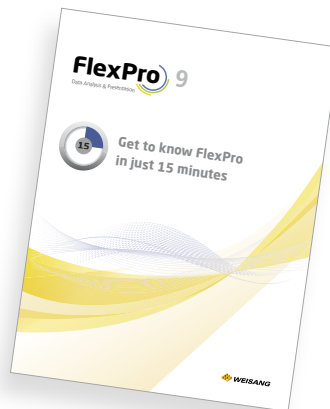
## New features in FlexPro 9:

- Use the SI Unit Manager for reliable results.
- Save your analyses and presentations as templates.
- Share templates over your network.
- Analyze data and video synchronously.
- Fully utilize the power of multicore CPUs.

## Easy to try

Get to know FlexPro 9 in just 15 minutes!  
Download the trial version and user guide  
of FlexPro 9 for free at:

[www.weisang.com/flexpro](http://www.weisang.com/flexpro)



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