

imc FAMOS 2021

What is new

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Foreword

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imc FAMOS Update Info

This chapter lists all new features and changes implemented with this version.

A **complete history of the update information** of all versions can be found in the **CHM help** under "C:\Program Files\imc\imc\imc FAMOS Version\Hlp\de\imc_FAMOS_WhatsNew.chm". This is also part of the help, which you can open with F1 in imc FAMOS.

1 imc FAMOS Update-Info (Version 2021)

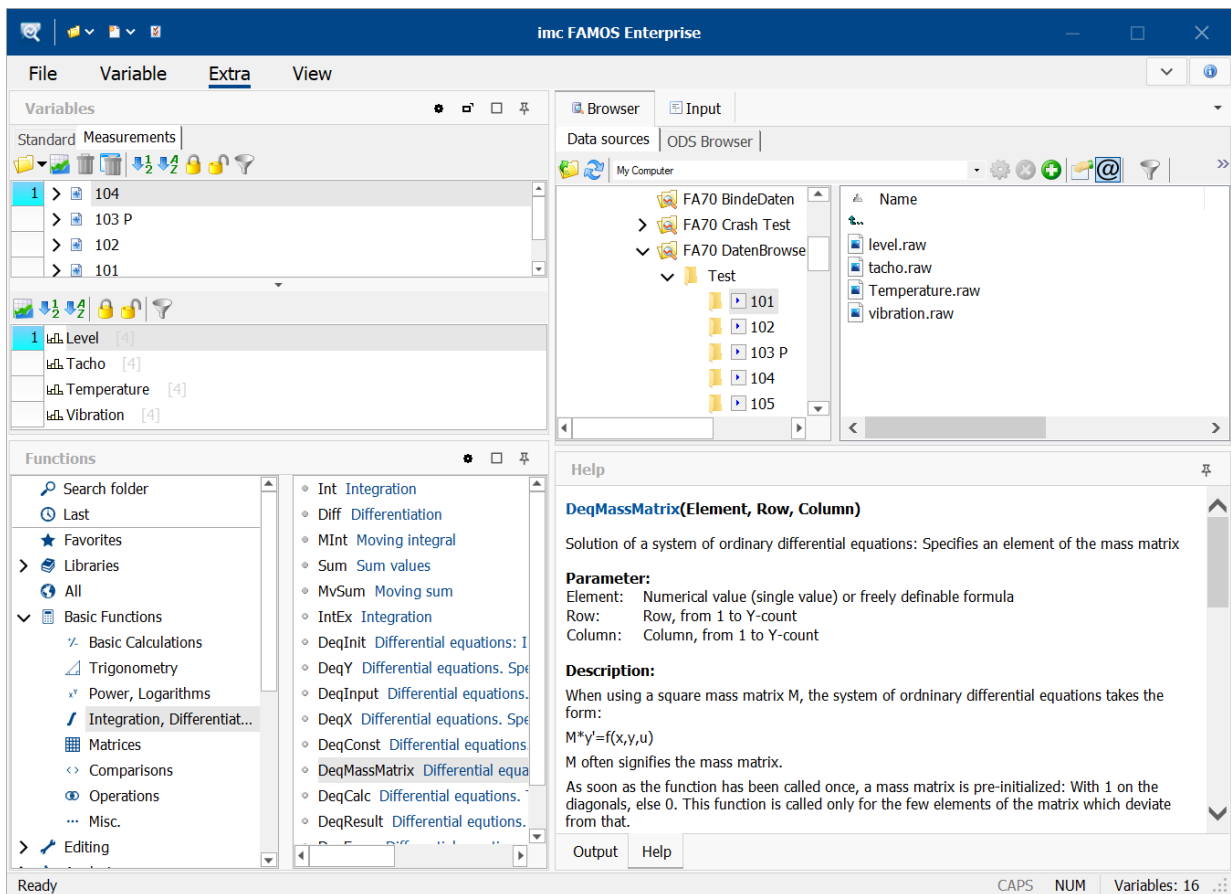
1.1 General Notes

The new version, imc FAMOS 2021, comes with numerous innovations and improvements: New and optimized functions expand the range of analysis capabilities, while the Panel and curve window now offer new display and operating possibilities.

The **default setting for function names** and commands is now English, even on German-language operating systems. The German function names can be set in the *Options* under *Functions\Language*. However, how the sequences are executed does not depend on the language of the function's names.

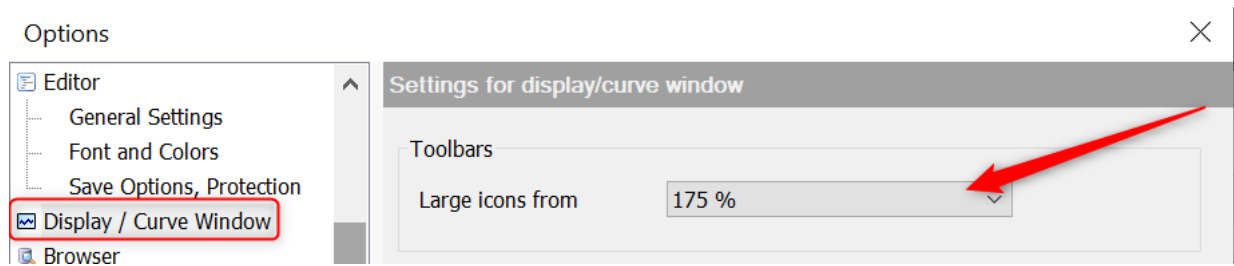
1.1.1 Graphical user interface

- **New design in imc-Look**



Die Softwareoberfläche präsentiert sich in einem neuen aufgeräumten imc-Look.

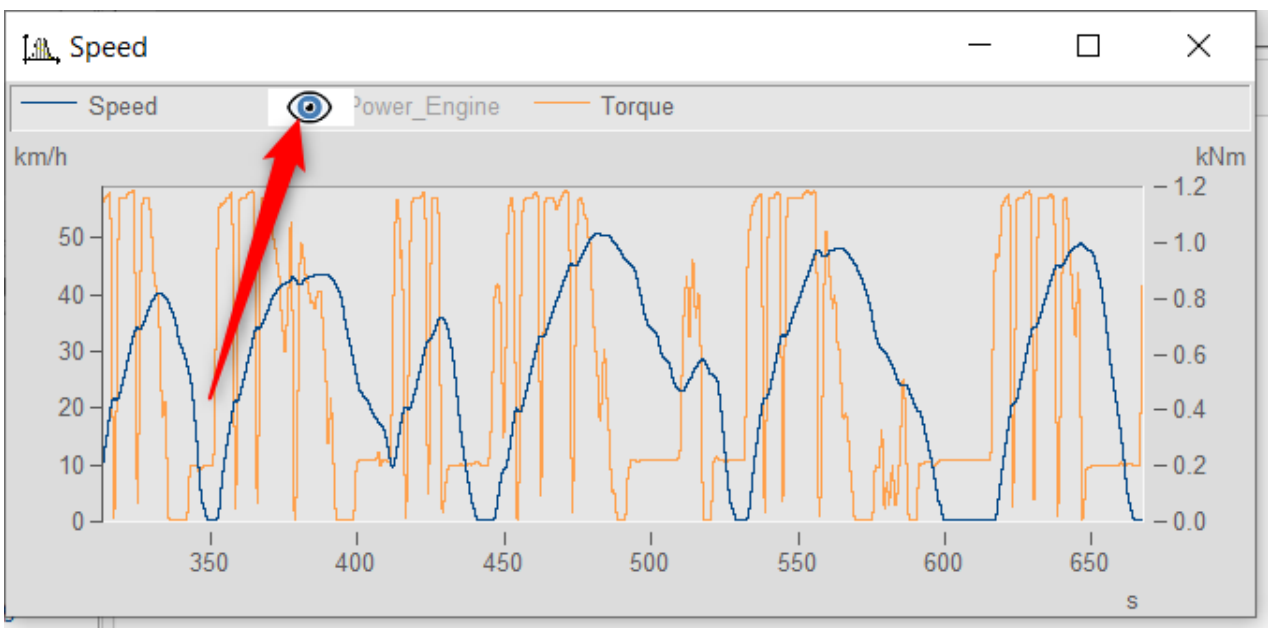
Support of monitors having high resolution by large toolbars, conditional on the DPI-setting



Magnification factor for the monitor, on which large toolbars are used

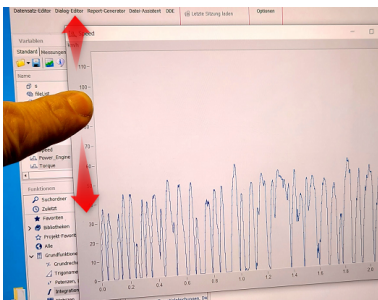
1.2 Curve window

Showing/hiding channels at the click of the mouse



In the curve window, it is now possible to show or hide individual channels at the click of a mouse. To do this, the mouse pointer is moved over a channel name and then showed/hidden by clicking on the eye icon. Alternatively, it is also possible to navigate to the curve window's upper left corner and use a pop-up menu there to configure which channels are displayed and which are hidden.

Expanded touchscreen operation for the curve window

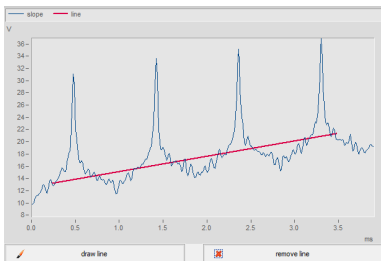


In order to further increase operability of the curve window by touchscreen techniques, certain regions of the curve window have been allocated for triggering certain actions. Thus for instance, in the top or bottom regions of the curve window, it is possible to move the curve in the Y-direction, and in the left or right margins of the curve, the curve can be moved in the X-direction.

1.3 Panel

1.3.1 Curve window with event

The curve widget now recognizes "mouse events" such as clicking and dragging, which in turn can be assigned to their own sequence actions. Thus for instance, clicking the mouse while pressing the CTRL-key sets a marker or circles an object graphically; similarly areas can be filled or regression lines drawn across a selected region.



```

CwSelectWindow("Curve.Curve1")
LOCAL ctrl = CwSequenceState("key.ctrl1")

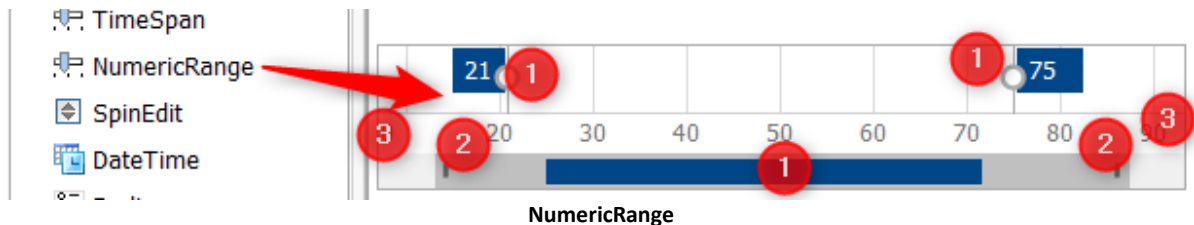
IF ctrl
; action when clicking
x1 = CwSequenceState("val.x")
y1 = CwSequenceState("val.y")
while CwSequenceState("dragging") <> 0
; action while dragging
x2 = CwSequenceState("val.x")
y2 = CwSequenceState("val.y")
Line= xyof( [x1,x2], [y1,y2])
end
x2 = CwSequenceState("val.x")
y2 = CwSequenceState("val.y")
Line= xyof( [x1,x2], [y1,y2])
end
end
    
```

1.3.2 New widgets

1.3.2.1 NumericRange, TimeSpan

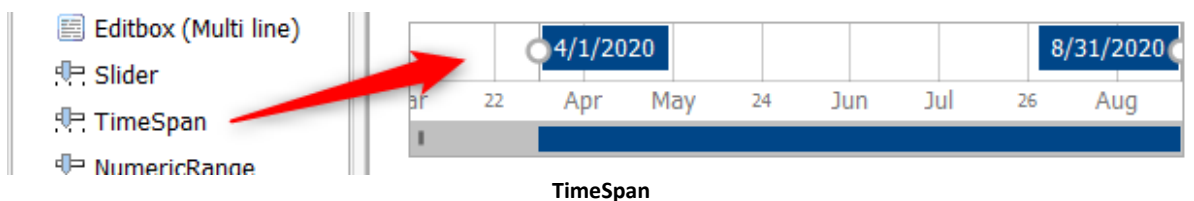
The new widget "Timespan" makes it possible to define time spans and the widget "NumericRange" to define numerical ranges by means of slider bars. Using these widgets, it would be possible, for example, to analyze measured data only within a certain time range, or only display events which fall within a defined numerical range.

- Display of a numerical span ① with adjustable range ③ and resolution ②.



The span ①, range ③ and resolution ② can be changed either graphically or by means of a function.

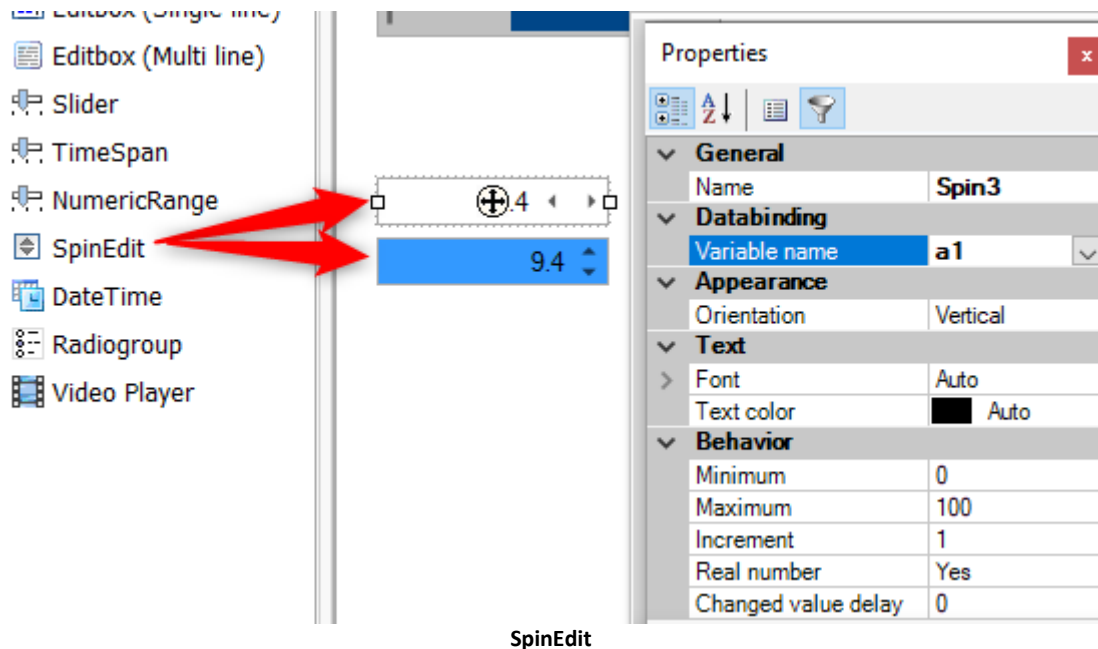
- A widget for defining a time span with a beginning and end of the time range as well as the minimum and maximum of the ruler.



All parameters can be set both graphically and by means of the function.

1.3.2.2 SpinEdit

The new [widget SpinEdit](#) makes it possible to increase or reduce numerical values using an "Up" and "Down"-button, respectively. Thus for example, series of measurements can be stepped through on the basis of their number, orders can be selected in an order analysis, boundary values can be increased incrementally, etc.



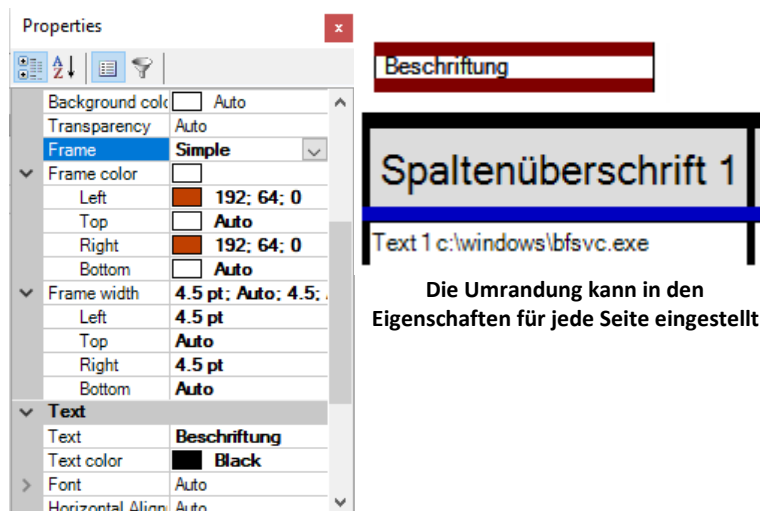
The increment arrows can be arranged either horizontally or vertically. It is possible to set or change the highest and lowest values, as well as the by means of a function. While the mouse button is held down, the values are incremented automatically, initially slowly, later quickly.

1.3.3 Tables and labels

1.3.3.1 Formatting of text and frames

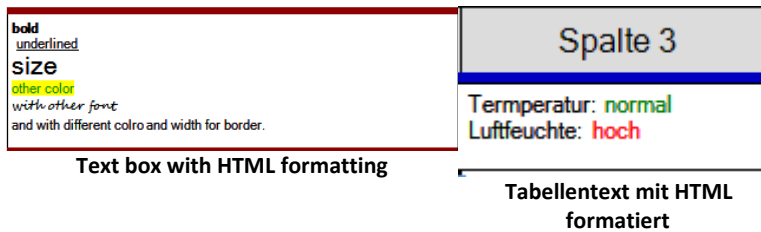
Frame width

The frame width and color for tables and labels can now be set separately for each edge. Thus for instance the outer frame of the table can be formatted to be a solid thick red line, while the inner cells are separated by a dashed black line.

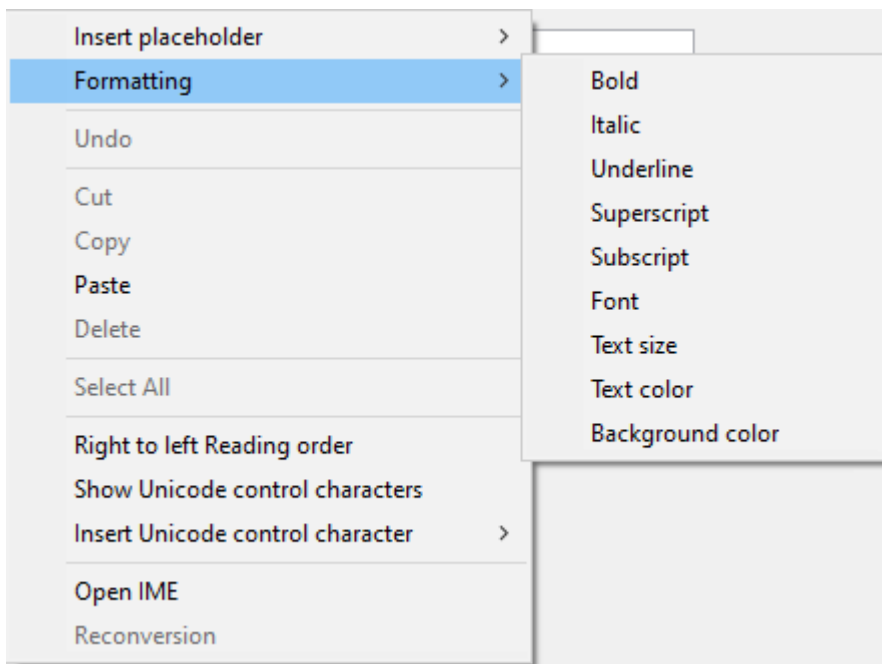


Text formatting

The texts in text boxes, labels and tables can now be formatted by HTML. Supported styles include <color> and <backgroundcolor>, <size>, bold , italic <i> and many other tags.



The context menu now also includes formatting instructions. Highlight the text to be formatted and select the formatting:



1.3.3.2 Table with input box

Tester	John Miller
Weather	rainy
No#	ABC545435

It is now possible to use table cells as input boxes. In this way it is not necessary to create many individual input boxes, but instead just one table. For this purpose, the table cells can be set to "editable" using the Properties window. It is then easy to access the contents of the table cells by means of a sequence.

1.3.4 Support of text array variables

- **Linking text array variables with a textbox, input box, (cells of) tables:**

Text array variables can now be linked with labels, input boxes and tables. Each array element is outputted as a new line. It is possible to access each entry by its respective index.

- **Using Drag & Drop to place a text array variable at an empty location in the Panel:**

A menu is now available offering widget types (text box, (multi-line) input box, table, data grid) to create and link with the text array.

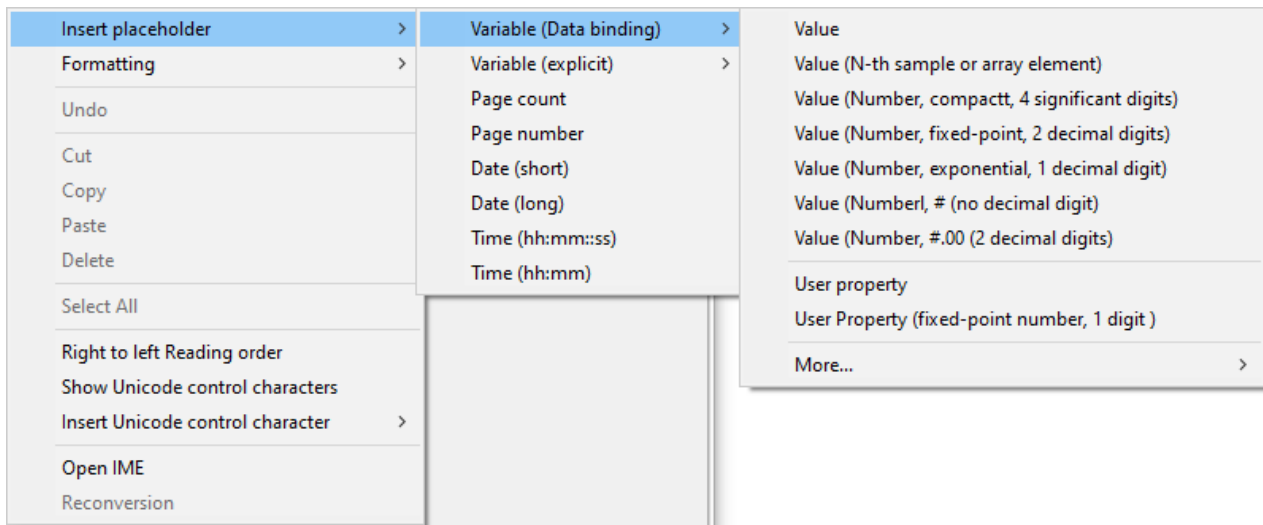
- **Taking a text array variable or data set to a table widget by Drag & Drop:**

When saving a simple, unstructured data set or a text array, a message box now appears in which the user is prompted to decide whether to expand the variable. If yes, the variable is distributed over the subsequent cells of the column.

1.3.5 Placeholders

For text arrays and tables, there are now new placeholders available. By using these, it is now possible use `<VAR.COMMENT>` and `<VAR.ORIGIN>` to embed the comment and the file origin into text arrays and tables, respectively, and to automatically update them by means of data binding. User-defined properties can be embedded using the command `<VAR.PROPS>` ("userpropname").

Furthermore, the context menu for widgets with pre-defined placeholders has been expanded:



1.4 Editor

- Multiple lines can now be **commented out** as a **block** by means of `(* ... *)`.
- In order to display **double quotation marks within text constants**, these can now be denoted by duplicating. Example:
`Tx = "explorer.exe ""C:\Programme\Microsoft Office\MSAccess.EXE"""`
- In order to prevent long lines of code from being limited by the editor's end-of-line ("EOL"), it is now possible to achieve a code line wrap in the editor by means of SHIFT+ENTER.

```

42  ClsHandle = ClsOffRainflowInit1 ( _NumberClasses, _TypeOfUnit, ↵
                                     _UnitRow, _UnitColumn, ↵
43  ClsOffRainflowInit2 ( ClsHandle, _Min, _Max, _Hysteresis, ↵
                                     _Axis, _Type, _Border, _CalcOptions)

```

The "line break" symbol resulting from SHIFT+ENTER

1.5 Functions

New functions:

- *New functions for text arrays:*
 - ***TxArraySort()*** : Sorts elements of a text array
 - ***TxArrayClean()*** : Deletes duplicates, empty entries and other entries according to pattern comparison/regular expressions in a text array.
 - ***TxArrayCombine()*** : Combines text arrays
 - ***TxArrayToChannel()*** : Conversion of a text array to a numerical data set
 - ***TxToClipboard()***: Copy text field to clipboard
- ***JoinEx()*** : Improved *Join()*-function. Up to 15 parameters; the data format of the parameters is retained in the result wherever possible.
- ***CwUpdateEnable()*** : Replacement for *CvUpdate()*
- ***Name?()***: Gets the variable's name
- ***SoundIntensityThirds()***: Sound intensity for each third or total
- **Solving differential equations:** Under Basic Functions\Integration, Differentiation, there are now new functions *Deq*()* for solving **differential equations**.

Expansions of existing functions:

- The functions ***Tleng()***, ***TComp()***, ***Tlike()*** and the comparison operators "=" and "<>" can now also be applied to text arrays
- ***Tleng()*** now returns -1 whenever no text/text array is passed as the parameter. In older versions, this caused a runtime error
- ***FileLineRead()*** : Significantly accelerated, reading in text arrays now possible, return value for queries now optional.
- ***FileLineWrite()***: Passing a text array now possible.
- ***PnInsertItem()***: Passing a text array now also possible.
- ***SetDatFormat()***: Min/Max parameters are now optional. When they are not specified in conjunction with Integer-formats, the system assumes Scaling factor = 1, Offset = 0.
- ***TForm()***: New formatting options "x" and "b" (without specified number of digits) for optimal formatting of integers.
- ***BitShift***, ***BitGet***, ***BitSet***, ***BitAnd***, ***BitOr***, ***BitNot***: Enhancements for 64-bit
- ***ClsOffRainflowInit3()***: New option for span calculations, HCM-algorithm

1.6 Sequence functions

The *Direction* column of the Declarations dialog now also offers "Reference" as a parameter. The local parameter name is interpreted as a reference to the variable passed, thus practically used as an alias name. The Formula Interpreter then uses the local alias name.

1.7 Import/Export

Binary-Blob

With the new version of imc FAMOS, it is now possible to import and export files as an uninterpreted BLOB (Binary Large Object). Thus for instance, the original measured data can be saved as a BLOB.

Import of text files with Unicode UTF-16 encoding

When importing files, text from files with character encoding UTF-8 or UTF-16 can now be read.

1.8 Miscellaneous changes

- imc FAMOS 2021 is available exclusively in a **64-Bit version**.
- Syntax of the **Initialization list** has been expanded
With initialization lists, along with purely numerical values as well as texts, constants (e.g. PI), mathematical expressions, functions and variables are now possible, e.g.
`ZeroOneZero = sin([0, PI/2, PI])`
- **Changes to the operation technique:**
 - Multi-line popup input windows (e.g. in Design mode, for the purpose of specifying the text in multi-line input boxes and text boxes, as well as of table cells) now use ENTER to Apply/Close and SHIFT+ENTER or CTRL+ENTER to place a line break. Previously: ENTER for new line, CTRL+ENTER for Apply/Close.
 - Multi-line popup editors now generally use TAB for Close/Apply and CTRL+TAB for placing a tabulator character. With most widgets, it had previously been the reverse.