

## inVISU PMS 6

### Readme

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We are pleased that you have decided in favor of our process management system inVISU PMS.

The installation of the software will be started automatically after inserting the CD. You can choose then, which of the components shall be installed. If you want to start the installation manually, launch SETUP.EXE on the CD.

#### The CD-ROM on hand includes the following:

- The development and the runtime version.

##### Several projects:

DefaultProject	Mini project, to be used as sample for a new project.
Demo_Combobox	Demonstrates some combo box functions.
Demo_OperationLog	Example project for the operation log.
Demo_EJ	Example for using events.
Demo_Trend	Example for using trend charts.
Grafik	Shows some graphic options.
Language	Example project for changing the language (German, English and Chinese).
TouchPanel	Demonstrates the use of the touch panel input, incl. project-specific online help function.
User_Log	Example of the user administration incl. Activity log functionality.

- The development version includes an online help function. Part of this online help function are as well the "Step-by-step instructions" which help you getting started with inVISU PMS. Open the book "Step-by-step instructions" in the contents of the help function and select a topic.
- The license agreement is stored in the inVISU root directory, previously defined by you, in subdirectory "Doc" (LICENSE\_E.WRI). By all means, you have to return this license agreement printed out and completely filled in (setup will print this form automatically). You can only receive information from our hotline, when your license agreement, filled in and completed by you, is available.
- inVISU PMS requires the operating system Windows 10, Windows 8, Windows 7, Windows Server 2016, Windows Server 2012 und Windows Server 2008.
- For the installation of inVISU PMS it is necessary, that you have **Administrator** privileges on your PC.

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If you should have questions to the program or the installation, we would like to answer them for you.

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## Changes and news in version 6.1.0.1

### Visualization

- Fix: title bar was not displayed in 6.1.0.0.

## Changes and news in version 6.1.0.0

### System

- Windows 10 and Windows Server 2016\* are supported.
- The default SQL database is **Microsoft SQL Server 2014 Express** including management tools. The maximum size of a database file is 10 GB. More than one database file can be used. Microsoft SQL Server 2014 Express requires Windows 7 or newer. Therefore Asset Graphics does no longer support operating systems such as Windows XP or Windows Vista.

### User interface

- The default style of the user interface is now **Office 2016 white**.

### Operation Log

- The conversion property of the Excel export can be configured by the entry **XLS.ConvertNumeric** in section **UserSection** of the report definition file (extension LST).  
E.g. the entry XLS.ConvertNumeric=0 disables the automatic conversion of numeric values.
- The automatic data acquisition considers the **invalid** state of data-elements.

### Setup

- Setup registers the editors OPC, Process Assignment, Event and Data Storage as automation server.

### VBScript

- Fix: issue using **PmsFormatDateTime** with the format option **%y** and an invalid date.

### Process Assignment

- Fix: issue when creating Process Assignment tables program-controlled via the automation interface.

\*Tested an Windows Server 2016 Technical Preview 5.

## Changes and news in version 6.0.3.2

### Graphic Editor

- Fix: the option **Visibility if right valid** (tab **Display**) is for group objects selectable again.

### Table (user interface)

- Fix: pasting Unicode texts in cells works correctly using the command **Paste**. Drag & drop (using mouse) was not affected.

### Activity Log Viewer

- An automated update of the log view can be configured by an entry in the Project.ini:  
[Log]  
LogAutoUpdateElementName=\_Sec10

### Maintenance Runtime

- Fix: Issue running a multi station project.

## Changes and news in version 6.0.3.1

### XY charts

- Fix: Problem with printing.

### Event Viewer

- Fix: no update of the online view.

### Graphic

- Painting of polygons improved.
- Fix: under rare circumstances **Window** objects of type **Always complete picture** displayed scrollbars.

## Changes and news in version 6.0.3.0

### System

- Revised design of dialogs.
- Added to the documentation: How to setup a Floating License Server and configuration for a Remote Desktop Server.

### Table (user interface)

- The current active cell is highlighted by an orange frame. If the table has lost the focus the frame is gray.
- An active edit inside a cell is drawn with a light yellow background.
- The mouse and keyboard handling is improved.

### Element selection dialog

- Handling and design of the dialog are improved.

### On-screen keyboard (OSK)

- In editors the on-screen keyboard is deactivated.
- The on-screen keyboards can be switched on/off by using the system-elements **\_OnScreenKeyboardNum** and **\_OnScreenKeyboardTxt**. Value -1 means **DEFAULT**, 0 is **OFF**, 1 is **ON**.
- Unless otherwise specified, the OSK uses the element properties **text** and **unit** for display.

## Automation (remote configuration)

- The editors for **Data Storage**, **Event**, **OPC** and **Process Assignment** provide automation interfaces to read and write document properties externally by other application. This can be done online while the Runtime is running.

## Graphic

- New object type **Combo box** available.
- For many objects you can set a transparency value for the line and fill color.
- Some objects have the new property **pixel offset**. The offset is set as an absolute value independent from the current size of an object. You can use this function to position object with a relationship. The pixel offset is configured in the tab **Position**.
- Each single corner of the **round rectangle** object can be switched on and off. Configure it in the tab **Roundness**.
- Some display issues in the high quality graphics mode are corrected.

## Graphic Editor

- The search function is enhanced to search for text in all properties of objects.  
Examples: Search for **IncludeSource** in scripts or for the filename of a **link-symbol**.
- Dialogs with an open VBScript page can be closed with the ESC key as long as the VBScript text has not been modified.

## Trend chart

- New trend type polar chart available (see page **Polar** in project **Demo\_Trend**).
- The background can be a gradient of two colors.
- Fix: problem using the character \$ in the unit text.
- For XY and polar charts the printer destination can be set by VBScript.  
With **OnPrintFinished** the completion of printing can be controlled.
- Fix: issue printing the legend in some cases.
- Tracking ruler outfit improved.
- Tracking dialog outfit improved.
- The VBScript functions **SetVariable** and **SetVariableEx** cause a rebuild only if necessary.
- The trend chart font can be configured in the Project.ini:  

```
[Trend]
FontName=Arial
FontHeight=12
```
- Fix: Tracking dialog and ruler display the most recent value.
- Color of the tracking ruler is stored in profiles.
- Fix: issues using the **Autoscale** option.

## Visualization

- For button objects the message  

```
The button is now unlocked.
Please repeat the operation.
```

does no longer popup after an user login if the VBScript function **OnCommand** exists.
- You can use the **tabulator** key for data input. The next object is determined by the object order. If the Shift key is pressed, the previous object is selected for data input.
- Graphic objects use a cache for the graphics files.
- Fix: Under certain circumstances the Visualization started with scrollbars.

## Project Manager

- Fixed an issue when copying files via the clipboard.

- The command button **Start** is grayed as long as the Runtime is running.
- Command to start **TeamViewer QuickSupport** added.
- Added checkbox (dialog **Option**) to configure the visibility of the **Runtime** (Runtime.exe).

### Runtime

- Fix: issue with project synchronization and special installation folder name.

### Data Storage

- The flag properties can be read or written in the VBScript function **OnDataStoring**.

### Event Editor

- The columns **Detecting time** and **Resolving time** are renamed **On delay time** and **Off delay time**.

### Event Journal

- Number of groups increased from 100 to 1000.
- Events can be suppressed by an operator. The suppression can be limited (by time) or unlimited. The suppression dialog can be called from extern.
- The last used AlarmId (for historical) is saved in the Project.ini  

```
[EventJournal]
LastAlarmID
```
- The background color of alarms is configurable (group property, tab **Color**).
- If there is no event **Went out** time, the text is empty (instead of \_\_.\_\_. \_\_ \_\_:\_\_:\_\_).
- Fix: rare issue during initialization.
- Fixed a rare issue when printing in a file.

### Event Viewer

- In the **online** view the displayed information for **acknowledged** has changed: it can be empty, **Missing**, **Necessary** or displaying the acknowledgment time.
- In the **history** view the formatting of time is changed.

### Network

- The behavior of the network communication can be modified with this entry in the Project.ini:  

```
[RuntimeConfiguration]
NetworkMode=1
```

This option allows data-elements which are created on the master system to be automatically created on all other stations at runtime (with the exception of declared exclusion elements).

### Process Assignment Editor

- In the columns **Address 1** / **Address 2** the tooltip text displays now the real address and the addressing mode (absolute/relative).
- Fix: false error while checking **From** and **To** address.
- The special function **Int(32)HiLo** and **Int(32)LoHi** are always selectable.

### Process Assignment Runtime

- Driver **S7\_Connection** was tested with Siemens PLC S7-1500.
- Fix: problem with the function **S7DateAndTime**, **BCD** and **S5Time**.

### OPC Client

- Issue with empty configuration lines fixed.
- The element name is now logged in protocol.

### Operation Log

- Minor issues concerning diagrams solved.
- Fix: The result of integral function was wrong when the time was set back.

### Maintenance Runtime

- Lines with negative values are now visible.
- Fix: issue with long **Designation** text (now up to 50 chars).

### Activity Log

- Fix: The property **EventId** was not stored in the database.
- Activity log may use files for caching, too.

### Activity Log Viewer

- Fix: Issues with a profile named **Standard**.
- Fix: Sometimes the displayed date in the title was wrong.

### Recipe Runtime

- Unless otherwise specified, the edit table uses the element property **text** for the column **comment**.
- If no filename is specified **Save** opens the dialog **New Recipe**.

### Debugger

- Dialog **Options** removed. The option properties can be set directly in the ribbon bar.

### VBScript

- **CreateObject** and **SetName** can now be used in one single line (separated by a colon, only one combination per line).

## Changelog patch version 6.0.2.0

### On-screen keyboard for texts

- The maximum of chars is increased from 80 to 160.
- Improvement of the start-up speed.
- Improved readability for long texts.

### Event Viewer

- The automatic printout doesn't pop up a message if no default printer is defined.

### Event Journal

- The so-called 'old mode' for the generation of alarms can be enabled with the following entry in the project.ini:  
*[RuntimeConfiguration]*  
*OldEventMode=1.*  
Old mode means that the BAD flag of data-elements is ignored.

### Activity Log Viewer

- Fix: searching for text in an empty table could cause a crash.

### Operation Log Runtime

- Fix: after selecting a different period manual input was blocked.
- Fix: under some conditions the function **Sum (System down)** calculated **minimum** and **maximum** without involving the overflow limit.

### Maintenance Runtime

- Fix: With an active display filter a row was blocked after a performed maintenance.

### Visualization

- Fix: under special conditions a sub picture was not drawn (black).
- Fix: the **OnStart** function of a picture was unnecessarily called when the picture was changed in the Graphic Editor.

### Graphic Editor

- If the Windows scaling factor for text was different from 100%, the Graphics Editor didn't start.
- Fix: crash after command **Invisible/Visible** for a link-symbol object.
- Fix: suppress flickering for the button **Lock**.

### Trend chart

- Fix: the **Autoscale** function had an error in a range without data.
- Fix: possible problem using the properties **UnitText** and **LabelText** via VBScript.

### System

- The dialog **Element selection** didn't provide OPC tables.
- Fix: problem with an online language switch and active modal dialogs.
- Some truncated texts in the printed documentation (PDF).
- Fix: possible crash when printing reports with a long port name (more than 10 characters).

## Runtime

- When the number num- and text-elements exceed the licensed limit, the message text is more understandable.
- The Runtime is started in demo mode if there is a developer license but no runtime license. In that case the Runtime now always uses the maximum of 100,000 num-elements.

## Tables

- The behavior of the input mode is changed when the focus returns.
- Fix: problem when invalid values are entered and the online help is launched.

## Network Master, Network Station

- Improved detection of irregular TCP data packets (e.g. by a port scan).
- Improved automatic determination of unused station numbers when stations are starting at the same time.
- Improved data synchronization at startup.

## OPC Client

- Feature **substitution value for invalid OPC tags**.  
If the quality of an OPC tag is not **good**, the corresponding num-element can be set to a substitution value. The feature can be set in the **Project.ini**.  
*[OPC-Client]*  
*QualityBadMode=1 (mode on)*  
*QualityBadValue=-1.0 (the substitution value)*
- Fix: data-elements which had been changed before the OPC Client was started, weren't send to the OPC Server.
- With the new option **All elements** you can force a write of all data-elements of an OPC table.
- Fix: when a message box popped up at start or end, the OPC Client could hang.

## Database

- The property **Init** of a data-element can be read and written in a VBScript.

## Activity Log

- Fix: a password dialog popped up (for the SQL Server) if the password for the database user **sa** was different from default.

## Recipe Editor

- The input for comments is limited to 100 chars.

**New file version: 6.0.2.0**

## Patches

### Touch Panel Dialog (Text)

- A call of the text touch panel dialog switched the physical keyboard layout to German.  
Fixed in InvTool32.dll, version 6.0.1.1.

## Changes and news in version 6.0.1.0

### System

- A new generation of hardware dongle (also in a micro form factor) can be used. The existing dongles can furthermore be used.

### Visualization

- Fix: Online update of modified password definitions in network mode.
- If the property **Title** for the Visualization is not set, the program uses the text **Visualization** as program title. This text is language-dependent.
- Buttons, check boxes and radio buttons can use the new VBScript function **OnCommand**. This function is launched when the control is clicked. This function can often replace the more complex function **OnLButtonClicked**.
- The new **PMS.FileDialog** object is used to display the Windows file selection dialog. For more information, see Help.
- Text objects have got the new option **Password mode** (tab **Text**). With this option set, the real text is replaced with \* chars.

### Trend chart

- Polar charts have got two new VBScript properties.  
**Clockwise**: If Clockwise = 1, the chart interprets the angle specification clockwise, otherwise counter-clockwise. Default is Clockwise = 1.  
**StartAngle**: With this property you can move the start position of the polar chart. Default is 90° which is the position top-center. This means the angle specification 0° starts at the top-center position.
- XY and polar charts draw without flickering.
- The ruler in time chart displays the values in an enhanced quality.

### PC Configuration

- The edit field **Master** (tab **Network**) is always enabled if the application is started in a remote desktop session.
- If the property **Master** (tab **Network**) is not set, the IP address 127.0.0.1 is used as default.

### Event Journal

- The valid flag of num-elements is a requirement for an alarm.  
I.e. an alarm is not created if a regarding num-element (**Element**, **Minimum** or **Maximum**) is invalid.

### User login

- The error message dialog after an unsuccessful user login is changed:  
Title: **Login unsuccessful**  
Message 1: **The password entered is invalid.**  
Message 2: **The username entered is invalid.**

**New file version: 6.0.1.0**

## Changes and news in version 6.0

The version 6.0 of inVISU PMS is compatible with previous releases of inVISU PMS. The support of operating systems begins with Windows XP.

The differentiation between a Standard- and a World-Editon is abolished. Now the only variant is the World-Edition which supports UNICODE fonts.

There is no longer a limitation to colors from a special colors palette. All RGB colors can be used.

### User interface

- Menus and toolbars are replaced by a clear ribbon interface. The color scheme can be chosen.
- Executables have got speaking names and new icons.
- New design for tables.
- Element lists use now a sort order without matching cases.  
Example: The data-elements **Temp** and **temp** are now nearby in element lists.
- The element selection dialogs got new functionality:
  - It's possible to select also multiple elements at the same time.
  - Filter function for names is integrated.
- Tables:
  - The **Fill** dialog has two new options: the automatic numbering can be done in the hexadecimal format.
  - The option **Leading zeros** can be disabled.

### Data base

- The limit for data-elements is increased to 100,000 num-elements and 10,000 text-elements.
- Element names can contain up to 100 chars.
- Text-elements can store up to 160 chars.
- Data-elements have got new properties:
  - A timestamp informs about the date and time of the last write access to the element. This information is also valid in network applications.
  - A data-element can have the status **invalid**.
  - A description and a unit can be configured for data-elements. E.g. used in trend charts. These properties are configured in the Project Manager. It's also possibly to read this information in scripts.

## Project Manager

- The behavior of the close button of runtime windows (also Alt+F4) can be configured. (i.a. hide or minimize program).
- Command to open the project folder in the Windows Explorer.
- The command buttons of programs without valid license are disabled.
- The add-ins **Acron** and **SNMP** are removed.

## Runtime

- The station number can be set by the call parameter **/Station:Nr**.  
Sample: **/Station:2**, starts with the station number 2.
- If a development license is available, but no runtime license, runtime programs start in demo mode (time limited).

## Graphic

- The picture property window displays the information about the number of used objects.
- The selection of a mouse cursor file is improved by a preview.
- New VBScript function **OnMouseLeave** for window, button and graphic button objects. This function is called when the cursor leaves the client area of the object.
- Modifications in link-symbols or pictures (used in window objects) are updated online. This applies for the Graphic Editor and the Visualization.
- New VBScript function **GetParentScript** to get access to a script of a parent object. This enables a comfortable and centralized data access between objects.

## Data Storage

- Data store files are written in a new format. Data storage files in an older format can still be read.
- Memory consumption and performance of the Data Storage Runtime are optimized.

## Trend charts

- Improvement of trend chart printouts (text size and color).
- Improvement of the visual look of tracking rulers.
- Property dialogs can be operated via a touch-screen.
- VBScript interface of the trend chart extended.  
**LegendText**: Function to read/change the legend text.  
**UnitText**: Function to read/change the unit text.

### Example:

```
ThisObj.LegendText(0) = "Tank1"  
ThisObj.UnitText(0) = "m"
```

Use the number of the trend line as parameter. The sample is using 0 for the first trend line.

## OPC

- The OPC client is completely redesigned.
- The communication details to an OPC Server are now configured in a so called profile.
- There are additional options to control the communication between OPC Server and Client. For instance, the data transfer can be synchronous or asynchronous.
- The OPC Server can run in read-only mode.

## Process Assignment

- It's possible to use numeric constants instead of an element. This enables writing fixed values to communication devices.

## Operation Log

- The new default database engine is the Microsoft SQL Server 2008 R2 Express Edition including management utilities. In this edition the limit for a database file is 10 GB.
- These functions can be configured to start controlled by time (regularly) or by an event:
  - Printing of reports.
  - Export and import of reports.
  - Database maintenance (shrink command).
  - Database backup.

## Event

- Up to 100,000 alarms can be defined.
- The limit for alarm texts is increased to 160 chars.
- The operator information is now part of alarm information.
- Event Editor: An element is displayed in red if no limit is defined (Minimum and Maximum are empty). This indicates an incomplete definition.
- In the SQL database **Events** two tables have been renamed:  
**Def\_Table** in **DefTable2** and **Def\_Groups** in **DefGroups2**.
- Event Viewer and Event Journal are using the same operating philosophy to select alarm rows.
- Group names can be localized by using language-elements (@\_\_TXxxxxx).

## VBScript

- New VBScript interface to access all language texts.

### Sample:

```
Set Language = CreateObject("PMS.Language")
LangText = Language.GetLanguageText(1, 120)
```

The first parameter is the language ID (1 for English), the second parameter is the number of the language text itself.

### Network

- Improvement of the network communication.

### Activity Log

- All activity log information is stored in a SQL database.

### Language

- Language texts (language-elements in the format: \_\_TX####) can now contain multi-line texts. In the Language Editor you can set the end of a line by pressing CTRL+Enter.

### Debugger

- Timestamp and status information are displayed.
- Element selection dialog:
  - You can select multiple elements.
  - You can set a filter for element names.

### Miscellaneous

- The system-element **\_UserRemainingLifetime** provides information about the remaining life time in seconds. **0** means **expired** and **-1** means **expires never**.
- The message dialog for license errors displays as additional information the serial number (if available).

### Floating License

- License counting starts with 0. This implies that the Floating License Server can be started on any PC. This PC becomes relevant to license counting when a visualization program is started.
- Now it's possible to start as service if the project folder resides on a network drive.