

Release Notes 2023



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Introduction

Welcome to WEST 2023

In this Release Note you will find information about new features of WEST, and what you need to know in order to install and get started with WEST 2023.

WEST 2023 is the a powerful and user-friendly tool for dynamic modelling and simulation of municipal Water Resource Recovery Facility (WRRF) and Integrated Urban Water System (IUWS). The extensive state-of-the art model library of WEST enables one to model and evaluate almost any kind of modern WRRF and a variety of IUWS systems.

WEST 2023 comes in five different flavors:

- **WEST Basic:** Entry-level product: allows for the construction of a plant layout (limited in size) and for the execution simulations, using a reduced block library
- **WEST:** Construction of plant models using standard blocks, simulation, output visualization, and computation of user-specified objective functions, and execution of advanced experiments (formerly: WESTforDESIGN)
- **WEST +:** Construction of plant models using standard and custom blocks, simulation, output visualization, computation of user-specified objective functions, and execution of advanced experiments (formerly: WESTforOPTIMIZATION)
- **WEST Player:** Simulation, output visualization, and computation of user-specified objective functions on the basis of a fixed executable plant model, previously prepared by WEST or WEST + (formerly: WESTforOPERATORS)
- **WEST SDK:** Software Development Kit for the integration of the WEST engine (i.e. Tornado) in custom applications (formerly: WESTforAUTOMATION)

WEST 2023 comes with 2 separate model libraries: the conventional **MSL** library (that uses MSL as modelling language) and a new **Modelica** library (that uses Modelica as modelling language).

Important: issues that should surface in the MSL library will be solved, but the library will no longer be actively developed and will eventually be discontinued. As of Release 2020, all new (model) development is taking place in Modelica.

System requirements

Operating systems

Fully supported Windows operating systems *	Windows 11 Pro, version 22H2 (64 bit) Windows 10 Pro, version 22H2 (64 bit) Windows Server 2022, version 21H2 Windows Server 2019 Standard, version 1809
Non-supported but partially tested operating systems **	Windows Server 2016 Standard, version 1607

* Fully supported operating systems are systems that have been tested in accordance with MIKE's Quality Assurance procedures and where warranty and software maintenance agreement conditions apply.

** Non-supported but partially tested operating systems are systems, which are not officially supported by the MIKE software products. These operating systems have only undergone very limited testing for the purpose of MIKE software, but the software and key features are likely to work. Installation of MIKE software on a non-supported operating system is done so at the user's own risk. The MIKE software warranty and software maintenance agreement conditions do not apply for unsupported operating systems and DHI is under no obligation to provide assistance or troubleshooting for cases where the software is being used on a non-supported operating system.

Please note that when running a fully supported operating system as a 'guest operating system' on a virtualization platform, it is automatically downgraded to a non-supported operating system under the conditions provided above.

Minimum hardware/software requirements

Processor	compatible with x64 instruction set, 2.2 GHz or higher
Memory (RAM)	4 GB or higher *
Storage	64 GB or higher *
Display	resolution 1024 x 720 (High-Definition) or higher, 24-bit color (true color)
Graphics adapter	64 MB RAM (256 MB RAM or higher recommended), 32-bit true color
Software requirements	Microsoft .NET Framework 4.7.2 or higher

* The actual required amount of memory and disk space depend on the usage (application, model setup, size of data files etc.)

Installation

DHI License Management - If you are installing on a computer or server where you will also install the license file, please also install the DHI License Manager. It must be downloaded separately.

To install WEST, please choose WEST in the 'Product Overview' dialogue box that appears when inserting the MIKE software 2022 USB and clicking the Setup.exe or executing the Setup.exe file from the downloaded installation files. Press the 'Install' button to begin installation.

The setup program will automatically install all necessary files and folders on your computer. Additionally, an entry is created in the Start Menu for WEST.

License file and dongle

Please Note that when using the local or network license option, which require a license file and a dongle, then

- the DHI License Manager must be installed separately.
- all licensed applications included in MIKE 2023 require a 2023 version of the DHI License Manager.
- a new license file format (file extension dhilic2) has been introduced with MIKE 2022 and these license files can only be used together with a DHI License Manager 2022 or newer.

To use WEST software in licensed mode, please refer to the DHI License Manager Release Notes. ([License Manager Release Notes](#))

Product invocation

Launch WEST from the Windows Start menu.

Support

For general support, please refer to our [Customer Care Portal](#).

If you experience any difficulties, or if you have questions, please contact our Customer Care team at mike@dhigroup.com.

You can also contact your local Customer Care team for support in your local language. A list can be accessed from [here](#).

New features and fixed issues

Every new release of WEST consists of new modules, new features and/or corrections to problems or significant inconsistencies discovered in previous releases. Please find below short descriptions of the most significant news.

Release 2023

New features

Module/type	New feature
Modelica Library	Models Guide (work-in-progress: available for download)
Modelica Library	New models: <ul style="list-style-type: none">• Particle Size Velocity Distribution model• PFAS incorporated in sewer and process models• Heat pump for energy recovery• Faults model for any sensor output• Generic sensor for KOSIM models (1, 2 and 3)• 2-way gas splitter

Modelica Library	Improvements: <ul style="list-style-type: none"> Residual BOD in PAA disinfection models Common KPI's added to cost calculator Modified implementation of infiltration in DWF generators
Modelica Library	New samples: <ul style="list-style-type: none"> mIUWS_BSM2_PFAS: to illustrate PFAS fate in sewer and plant
GUI	New option to select/deselect all time series in a plot
GUI	New option to export the underlying data series directly from a plot – without using other output channels, e.g. Table or File
GUI	New button to open current project folder
GUI	Keyboard shortcuts to initialize a simulation

Fixed issues/inconveniences

Module/type	Error/Inconvenience
GUI	“Index out of range” error message prevents accessing the influent wizard (occurs when multiple source files are used)
GUI	Reference to data files is not properly resolved, even though the WEST project / data file relative position is unchanged (happened when moving or sharing projects)
GUI	Model Editor: Extra Initial Equations and Extra Equations now is separate tab pages
GUI	Inconsistency in Properties pane (and error message) when DisplayName of a block contains characters incompatible with (internal) Name
GUI	All Templates updated, now use the Modelica library
GUI	Memory leak on 32-bit version
Modelica Library	PipeCircular now available in KOSIM2
Modelica Library	In DWF2, incorrect conversion of surface from m2 to ha
Modelica Library	In aerator models, error in power calculation due to a missing bracket in formula
Modelica Library	The transformer from WWTP effluent (ASM2dMod) to river influent (RWQM1), called ASM2dToRWQM1 (and associated with the "connector" icon) was moved to the ASM2dMod category and renamed TinRWQM1
Modelica Library	Power for pumping included in dewatering units
Modelica Library	Heat exchanger now available in IUWS (1, 2 and 3)

Modelica Library	Anaerobic digester now available in IUWS (1, 2 and 3)
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Known defects and workarounds

Module/type	Error/Inconvenience	Work-around
WEST GUI	The definition of Calculator Variables involving vectors or matrices in Modelica results in an error	Manually edit the TornadoMain.xml in the WEST\2021\etc\ folder and set to "false" the EnableMSLCalcVarCompatibility property
WEST GUI	Unit conversion does not work in Influent Tool	Use standard (SI) units rather than US or Imperial
Samples	Python Extensions sample only works after executing steady-state and dynamic simulation	Follow instructions provided in the Notes to the sample