Release Notes 2025 Update 1

WEST

Contents:

Introduction

Welcome to WEST 2025 Update 1.

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 Release 2025 Update 1.

WEST 2025 is 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 2025 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 2025 Update 1 deprecates the **MSL** library (that uses MSL as modelling language) and only supports the **Modelica** library (that uses Modelica as modelling language).

Important: the MSL library has now been officially discontinued.

System requirements

Operating systems

Fully supported Windows operating systems *	Windows 11 Pro, version 24H2 (64 bit) Windows 11 Pro, version 23H2 (64 bit) Windows 10 Pro, version 22H2 (64 bit) Windows Server 2022 Standard, version 21H2
Non-supported but partially tested operating systems **	Windows Server 2019 Standard, version 1809

* 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 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 go to the WEST product folder and execute the setup.exe file either on the MIKE 2025 USB or from the downloaded, un-zipped 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.

Important information: Please be aware that all MIKE software on the same computer must be installed with the same service pack. This is due to the dependencies between MIKE software products and the ability for the software to use the latest features and systems updates.

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 2025 require a 2025 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. Below is an overview of the most significant news.

Release 2025 Update 1

New features and improvements

Module/type	New feature
Engine	New integrated C compiler. WEST requires that model code is compiled to executable code. This compilation step requires a C compiler that, in the past, was to be installed and managed manually by the user. Now, the Zig compiler is part of the WEST installer. Also, the new compiler is significantly faster than other compilers, so the user benefits from an overall increase in compilation and simulation speed.
Engine	The 32bit version of WEST has been deprecated/removed. This follows general good practice as most of DHI software is only available as 64bit. There are different reasons for this, with the biggest and most noticeable being the memory allocation size. WEST models can now be much larger and more complex with less limitations on size (memory usage).
Engine	Replacement of cpp C preprocessor with clang-cpp C preprocessor. Improvements in readability and speed regarding preprocessing of model code.
GUI	The User Interface of the main WEST module as well as of the Tools is now available in French.
GUI	A new tool has been added to WEST to automatically generate a mass balance output file (.txt) that contains the mass flow (g/d) of all state components plus a preset of conventional aggregated components (i.e., COD, BOD, TSS, TN and TP) for each terminal of the WEST process layout.
Modelica Library	The old MSL library has been dropped completely, and all standard projects (samples, tutorials and generators) upgraded to Modelica.
Modelica Library	Models Guide: updated and now integrated (accessible via the Home | Help menu)
Modelica Library	N_2O model upgrade, including: • more reliable physical description of the N_2O stripping mechanism set as default • revision of key-parameter values to ensure consistency in N-removal processes in standard ASM2dMod, modified ASM2-ISS and modified ASM2-NDHA • option to incorporate N_2O emission in overall cost balance using two approaches: via a correlation to the influent nitrogen load (emission factor), or via the simulated N2O production from biological process units • calculation of N_2O emission in overall cost balance including also emissions from recipients (resulting from residual N load)

Module/type	New feature
Modelica Library	The integrated library (IUWS4) for modelling of micropollutants (MPs) has been upgraded and streamlined: • unified parameter set for one MP of relevance (carbamazepine) across various parts of the system (sewer, biological treatment, quaternary treatment) • in the ozonation model, the possibility of introducing the impact of TSS on ozone scavenging and the pH sensitivity to MP oxidation rates have been introduced as non-default options • energy consumption and chemical use for ozone dosing have been introduced and included in the overall energy and cost balance
Modelica Library	New $FeSO_4$ dosing unit

Fixed issues/inconveniences

Module/type	Error/Inconvenience
GUI	Correct expansion of vectors at design time.
GUI	Resolved. 'Red cross' in Block Details pane resulting from content update, as a consequence of transition from design to runtime mode.
Modelica Library	Improved initialization routine for biofilm to allow adjustment of S and X separately.
Modelica Library	Improved calculation of OUR in MBBR model.
Modelica Library	Updated description of N_2O stripping in NDHA model.
Modelica Library	Revision of default parameter set in NDHA model.
Modelica Library	Correct TN sensor terminal in multi probe model for NDHA.
Modelica Library	Aeration efficiency factor (and Q_Air_Actual) added to AS tanks models
Modelica Library	Correction in chemical dosing for P precipitation: MW / MW_Ref → MW_Ref / MW
Modelica Library	Correction of gas flow in ADM1 to avoid double-counting.
Modelica Library	Correction of COD continuity in ADM1 transformer.
Modelica Library	Initialization of volume in SBR models
Modelica Library	Issue in MBR model (ASM2dISS instance), related to missing F_TSS_COD
Modelica Library	Error in outflow of particulate components in SBBR
Modelica Library	Correction to initial equations of ozonation model to allow for execution of advanced experiments.

Module/type	Error/Inconvenience
Modelica Library	Correction to sewer multi probe to allow connection to KOSIM terminals.
Modelica Library	Fixed error in volume-proportional multi-sampler model for ASM2dISS.
Modelica Library	All MSL-based tutorials, samples and generators replaced by equivalent sample projects built in Modelica.
Modelica Library	All fractionation models updated for non-primary components.
Modelica Library	Added fractionation models for NDHA, PFAS and MP
Modelica Library	Misc/InputOutput data folder reorganized in instance-specific sub-folders.

Known defects and workarounds

Module/type	Error/Inconvenience	Work-around
Samples	Python Extensions sample only works after executing steady-state and dynamic simulation	Follow instructions provided in the Notes to the sample