

# Maintenance of Operation models

Maintenance of models in Operation based on a Model Manager topology follows a few basic principles described below. The maintenance of a model deals with typical changes performed in GIS environment like new registered objects, deleted objects, changed geometry and changed attributes assigned to objects.

The basic principles are as follows:

- Changes in GIS have in general precedence compared to changes in Operation.
- Objects are identified by a unique ID coming from GIS. ID changes in GIS will cause potential update problems.

The following sections outline the maintenance procedure more detailed.

## Constraints on model object ID's

Object recognition during model update is based on object ID.

Object ID may be modified in Operation, Original ID from GIS will be used for object recognition.

Object ID cannot be modified in GIS as recognition then will fail leading to possible object update failure.

## Objects created in Operation

Objects created in Operation will be left unchanged in the Operation model. If object created in Operation appears in next update from GIS, object will then become GIS.

## Objects created in GIS

Objects created in GIS since last model update will be included in the Operation model.

## Objects removed from Operation

Objects removed from the Operation model since last model update will re-appear during model update from GIS, unless objects are removed from GIS as well.

## Objects removed from GIS

Objects removed from GIS will be removed from the Operation model.

## Objects changed in GIS or Operation

Depending on the nature of the changed object properties different actions will apply.

The attached tables show the model properties and their model update status.

Object attributes will be grouped in 1 of the following 3 categories:

### GIS Wins

Properties from GIS will overwrite values in Operation. If property was changed in Operation, this value will be overwritten.

### GIS Changes

Properties from GIS will overwrite values in Operation only if values actually did change in GIS compared to first import or latest maintenance. If a property value is not changed in GIS, the current property value will remain as is in Operation.

### GIS Loses

Properties from GIS will only be used in Operation at initial import. Changes in GIS will be ignored.

## Object status after model update

During model update, each model object will have its "Update Status" and "Update Status Sub" updated to reflect the changes. You may read more about this in the manual: "[How To: Update Existing Model Using Model Manager](#)"

AQUIS Operation	Nodes	Pipes	Valves	Pumps	Reservoirs	Hydrants
Shape	GIS Changes	GIS Changes	GIS Changes	GIS Changes	GIS Changes	GIS Changes
Comment	GIS Changes	GIS Changes	GIS Changes	GIS Changes	GIS Changes	GIS Changes
FlowControlZone	GIS Wins	GIS Wins	GIS Wins	GIS Wins	GIS Wins	GIS Wins
Z	GIS Wins	GIS Wins	GIS Wins	GIS Wins	GIS Wins	GIS Wins
Pressure	GIS Looses					
PressureTS	GIS Looses					
FlowTS	GIS Looses					
Type		GIS Wins	GIS Wins	GIS Wins		
Material		GIS Wins				
Lining		GIS Wins				
Class		GIS Wins				
Installation		GIS Wins				
NominalDiameter		GIS Wins				
Int_Diameter		GIS Changes				
Length		GIS Changes				
Closed		GIS Changes	GIS Changes	GIS Changes		
Roughness		GIS Looses				
LocalPressureDrop		GIS Looses				
InitialOpening			GIS Wins			
UpsPressureControl			GIS Wins			
DwsPressureControl			GIS Wins			
CvMax			GIS Looses			
Characteristics				GIS Wins		
PControl				GIS Wins		
VolumeCurve					GIS Wins	
LevelTS					GIS Looses	