AFT Impulse 5 New Features

General interface

- o Updated interface and icons
- o Robust support for dual monitors
- o Native support for both 32-bit and 64-bit operating systems
- o Tabbed Primary window navigation with individual window pullout feature
- o New Startup panel allows user to choose engineering unit system (U.S./metric) and specify default fluid
- o Improvement of main menu navigation including redesign of the Checklist
- o Primary window toolbars now integrated into each Primary window
- o Non-settling slurry features accepts raw rheological data and generation of non-Newtonian constants as well as new raw data Scale-up model
- o New User Options window collects many of the previous user customization windows into one place – including Parameter and Unit Preferences, General Preferences and Workspace Preferences
- o Improved printing features includes use of company logo, user comments and titles, as well as graphical borders on all printouts
- o Help menu links to video tutorials on our website
- o When merging models users can automatically create a group of merged pipes and junctions
- o User customizable themes
- o Output reports available in Spanish language (coming soon)
- o Curve fit configuration window parameters and unit selection have been improved
- o Files are automatically locked when opened to prevent multiple users from accidently opening the same file
- o Additional parameters are available to control the solution calculations

- New Quick Access Panel
  - o Access to Scenario Manager directly in interface
  - o Access to Graph Sets directly in interface
  - o Access to Workspace model overview map
  - o Alternate display of Input and Output data for pipes and junctions
  - o Users can pin the Panel or use it in flyout mode

- Scenario Manager
  - o Access through Quick Access Panel from any Primary Window tab
  - o Insert Scenario feature allows new scenarios to be inserted above any scenario including the Base Scenario thus creating a new Base

- o Delete All Children feature means children do not need to be deleted one at a time

- Workspace
  - o Transparent icons gives more modern look to model
  - o Mapping feature flyout allows birds-eye view of model and navigation
  - o Dockable and movable Toolbox
  - o Toolbox icon changes can be made using a right mouse click on the Toolbox
  - o Select cursor or Pan cursor selectable on the Toolbar
  - o Improved navigation speed for large models with thousands of pipes and junctions
  - o Improved Inspection window more readable and has integrated Output data with Input
  - o When trying to move locked pipes and junctions a lock symbol appears next to locked items that cannot be moved
  - o Annotations capability great improved also allowing user's images to be inserted into the annotation
  - o Improved pipe and junction graphical interference detection
  - o Last selection on the Workspace can be reselected using F12

- Model Data
  - o General, Pipe and Junction data display sizes can be changed by user and more easily hidden
  - o New zoom feature added
  - o Curve fit raw data is now an available display parameter
  - o Pipe intermediate elevations added as an available display parameter

- Output
  - o General, Pipe and Junction output report display sizes can be changed by user and more easily hidden
  - o New zoom feature added
  - o New parameters available
  - o Display multiple instances of the same parameter with different units
  - o Output Control parameter selection improved and made uniform
  - o Parameter units are selected next to the parameter in the gird

- Graph Results
    - Improved Graph Set creation and navigation integrated into Graph Results window Quick Access Panel
    - **Junction symbols can be shown on Profile and HGL/EGL/Elevation graphs allowing easy identification of the location within the model**
    - **AVI and flash video files can be created from the animated graphs**
    - **Annotations can be placed directly on graphs**
    - **Design Alerts and Steady-state values can be cross-plotted in both animation and Maximum/Minimum plots**

- Pipes
    - Fittings and losses can now have user "Favorites" which allows for much faster navigation to frequently used fittings
    - Improved pipe sectioning window
    - New Pipe Material Databases based directly on international pipe standards (databases coming soon)
    - Pipe data can be changed using the Excel file import feature
    - Ability to specify a reference pressure in a closed pipe during steady-state which will be used during the transient calculations

- Junctions
    - New Weir junction allows direct modeling of sharp-crested weir of varying geometry
    - Enhanced Relief Valve modeling, including Danflo and Grove Flexflo
    - Pump specific speed and estimated inertia calculator integrated within the pump propertied window
    - Pump de-rating by user specified factors adds to previous calculated de-rating methods
    - Reference density for all pump head curves and junction resistance curves allows correction for pressure drop data, mass flow data and (for pumps) power data
    - New Kv loss model for valves
    - New pump viscosity correction method utilizing ANSI/HI 9.6.7-2004 method
    - Check valves can be specified to be closed (using Special Conditions) during steady-state but then open and operate normally during the transient

- Solver
    - Automatic processor threading decreases time required to solve transient cases
    - Discrete Gas Cavity model to calculate cavitation
    - Improved support of pressure drop in fittings by use of the Adjusted Turbulent K factor method
    - Handle varying ambient pressure with elevation
    - Force imbalance calculations can now extend across more than two pipes

- Modules
    - **SSL – New settling slurry module (similar to AFT Fathom) allows solid particles to be added to the working fluid. The system can then model the slurry transient based on a new density, bulk modulus and wave speed based on these solid particles.**