Engineering Suite

Multidisciplinary, real-time system modelling
and simulation software

Howden

Engineering Suite
demonstrates how
systems and processes
behave in real-time in
actual environments.

Engineering Suite is a physics-based software package that
offers the user a highly interactive platform to model, simulate,
analyze, and perform control of entire process systems.

Interactive user interface

The software is a plug-in to Microsoft Visio's P&ID editor.

A project begins by modelling the system
or process by dragging and dropping icons
from built-in stencils. Engineering Suite
then proceeds with the execution of the
calculations.

This list highlights some of the visually rich features:

Excel add-in feature sychronized with
simulation to display live data, allowing
for two way communication.

Ability to apply scenario files to investigate
incident response.

Simulations may be run in reduced, real, or
accelerated time to meet specific processes.

Colour coded icons help differentiate the
system types.

Systems

Liquids

Hydraulics

Gases

HVAC

Refrigeration (two-phase flow)

Thermal (heat transfer)

Electrical

Controls (Analog & Logic)

Basic Principles

Mass & energy conservation

Ideal & non-ideal gas laws

Isothermal & adiabatic flow

Bernoulli's equation

Compressible flow regime

Fourier's Law

Ohm's Law & Kirchoff's Current Law

1-phase & 3-phase

Key applications

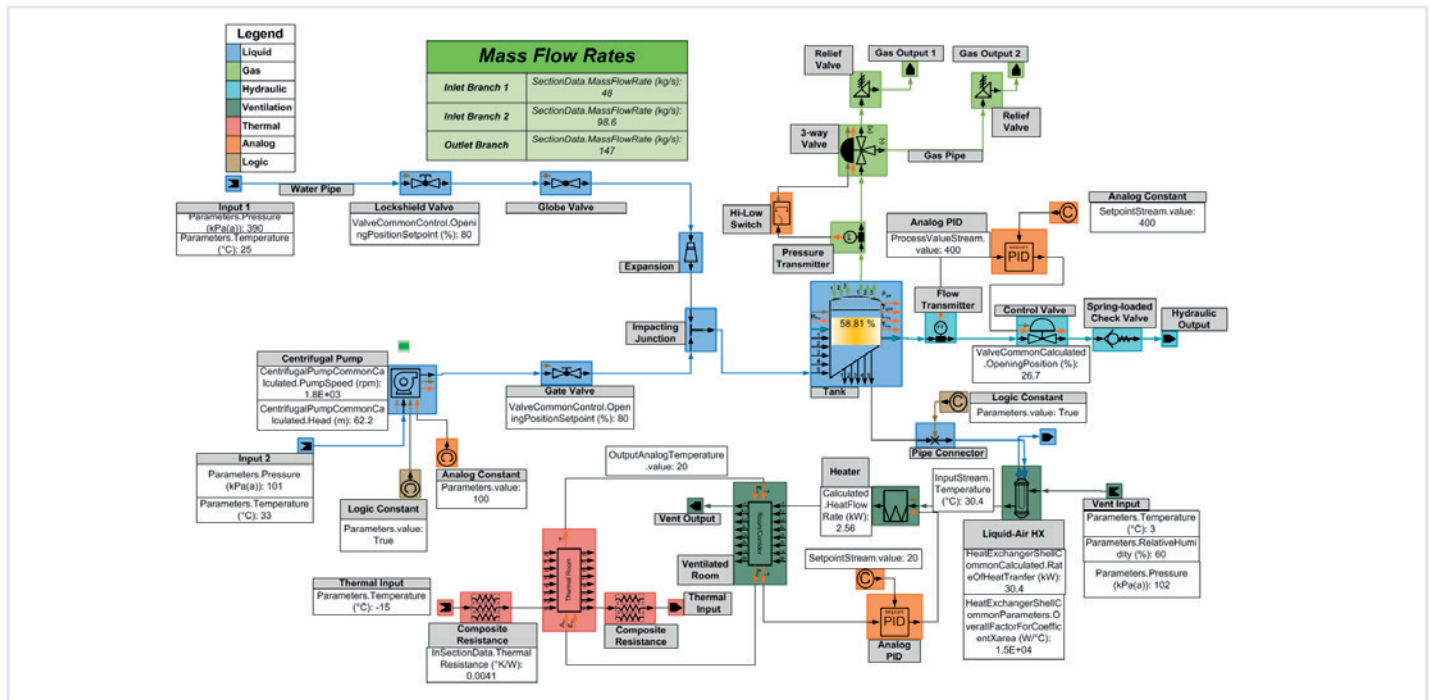### Power generation

Defense
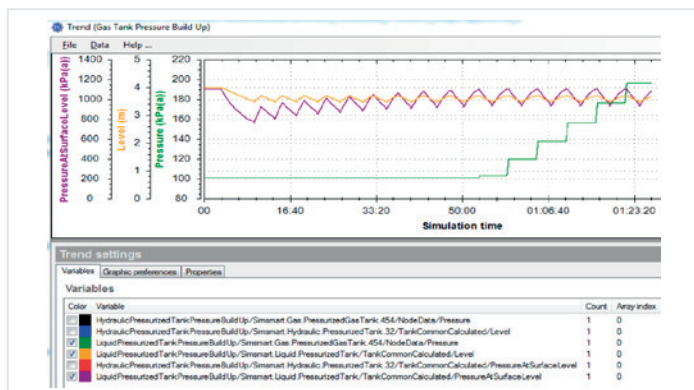

Mining

Refrigeration

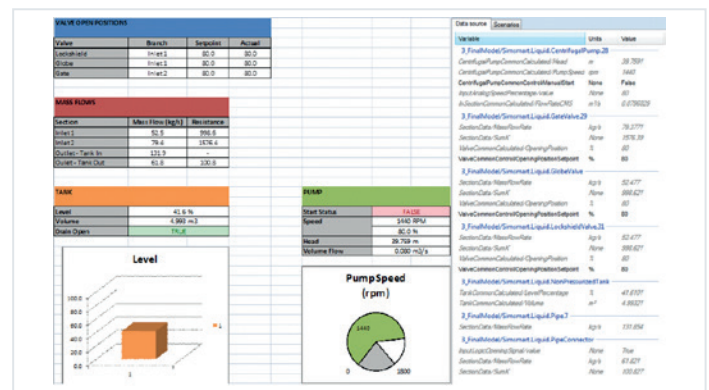## Multi-discipline, real-time system modeling and simulation software

Trending

Graphs can be created to monitor system response in real time.

Dynamic Excel Link

Further post processing of any variable from the simulation in real-time within Excel.

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Feature comparison

	Full	Liquid-only	Edit mode only	Viewer only	Description
Feature set					
Analog/Logic	●	●	●	●	*Contact for information*
Electrical	●		●	●	*Contact for information*
Gas	●		●	●	*Contact for information*
Hydraulic	●		●	●	*Contact for information*
Liquid	●	●	●	●	*Contact for information*
Thermal	●		●	●	*Contact for information*
Ventilation	●		●	●	*Contact for information*
Two phase	●		●	●	*Contact for information*
Software build	●	●			- Prepared the simulation for calculations - Used to run the simulation in real time, decelerated or accelerated time - Contains all of the run-time data
Software edit	●	●	●		- Object-oriented approach to layout the parts on a flowsheet and build a process - Lets the user enter data into the parts - Generates simulation engine for the built flowsheet
Software modeller	●	●			- Create custom libraries and parts - New stencils can be added to user library - Part images can be adapted and modified - Unique part code can be developed for logic and mathematical equations
Software run-time	●	●		●	- Modify data while the simulation is running - Add dynamic objects on the flowsheet, either as a numeric, bar graph, alarm and action block - Visualize data using the run-time data trend

Revolving Around You™