DATASHEET

AVEVA™ Engineering

Enable your multi-discipline teams to work together in a single environment

AVEVA Engineering is highly versatile and configurable. Typically used as an authoring tool, your teams can build a comprehensive database of your project's engineering objects and attributes.

Engineers build out detailed project information such as lines, equipment, and valves. The project information model stores and manages this object data, which can later be used as part of the foundation of a digital twin. Your teams can then directly integrate the object data with schematic 2D and 3D design data.

AVEVA Engineering is suited to a range of engineering disciplines, including process and mechanical, as well as other specialist disciplines like pipe stress or safety. These diverse teams keep full control of their own data while also being able to access and reference data from other disciplines.

Built-in tools allow project or engineering managers to monitor design progress and the completeness and consistency of data. Managers can use AVEVA Engineering to generate key project documents, such as process and mechanical datasheets, tag registers, line lists, equipment lists, or valve lists, as well as any ad hoc or departmental reports.

AVEVA Engineering is a part of AVEVA™ Unified Engineering, our comprehensive 1D, 2D, and 3D engineering and design solution.

By situating all your tools into a common tech stack, AVEVA Unified Engineering empowers your teams to collaborate openly and continuously to build the foundation of your digital twin. With fast time to value, your teams can track, demonstrate, and deliver better, more efficient project outcomes.

Access complete data with customizable interfaces

Create, view, or modify engineering data using both spreadsheet list-style and datasheet-style user interfaces, according to need or preference. Users can configure their own user interfaces based on their needs.

Users can also browse and navigate the complete project data including engineering, 3D, schematics, and catalog data using a configurable project explorer.

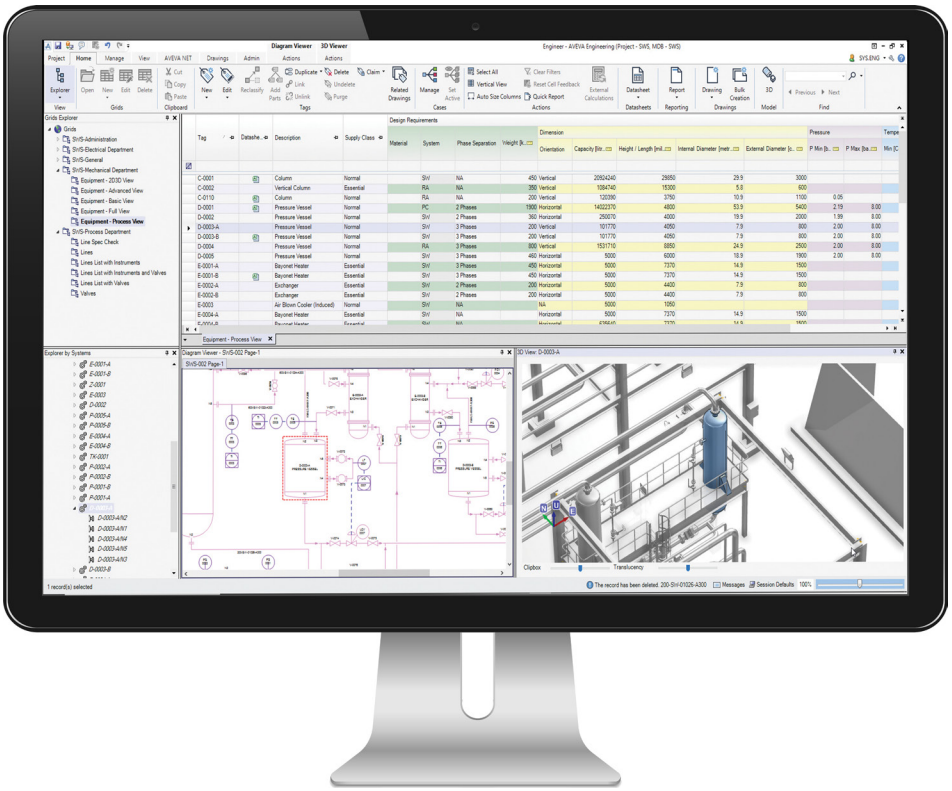
The database is under continuous access control, defining what information a user may create, view, or change. All changes to the data are automatically stored in the database, creating a permanent audit trail. Users can follow up on changes using change highlighting and history functions.

Verify the quality of the data at any time with configurable consistency checks across the database.

Users can easily create project-wide, formatted reports, including charts and graphics, directly from the database.

As part of AVEVA Unified Engineering, AVEVA Engineering can directly access 1D, 2D, and 3D data across the project and locations using cloud-hosted data. This allows your teams to create list deliverables without needing to copy data across databases. Built-in compare and update capability is also available to synchronize against other systems and data sources, including third-party tools.

Readily configure AVEVA Engineering with a wide range of project, customer, or industry requirements. It includes a powerful programming language (PML) and .NET APIs, enabling all kinds of customer- or industry-specific customization and automation.



Through an AVEVA Unified Engineering solution, AVEVA Engineering users can access and reference a comprehensive set of data from other applications as they work. This enables users to view P&IDs and the 3D model for the currently focused engineering object.

Business benefits

Increased project control

- Effectively manage, control, and use your engineering data with a common project database
- Quickly and efficiently implement changes, reducing their impact on cost, schedule, quality, and risk

Increased efficiency

- Collaborate effectively across disciplines
- Create high-quality datasheets, lists, schedules, and other deliverables on demand

Increased project quality

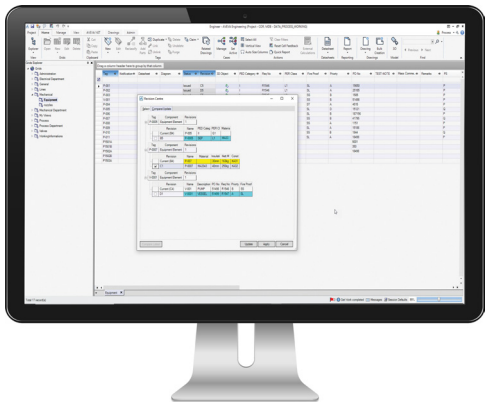
- Reduce errors from uncontrolled handover of data between disciplines
- Detect and eliminate a wider range of data inconsistencies, reducing the risk of costly, late design changes and associated rework
- Generate deliverables directly from the project database, eliminating sources of error

Increased capability

- Establish efficient multi-site collaboration on a wider range of engineering data
- Work more effectively with no boundaries between data sources, enabling better-integrated working methods

User-defined lists with sophisticated access controls

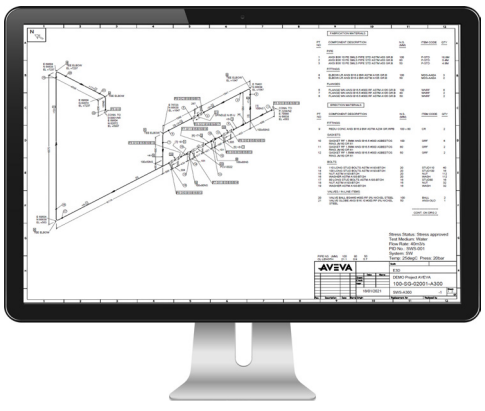
View and edit data through a spreadsheet-style grid, which can include information across different engineering disciplines. Administrators can define list layouts for all users on the project, and users can create their own layouts containing only columns relevant to their current task with configurable dropdown lists and reference browsers. Each discipline maintains full control of its own data for any given item while enabling other project participants to view the item's complete data. This also includes support for issued and working versions of the data.



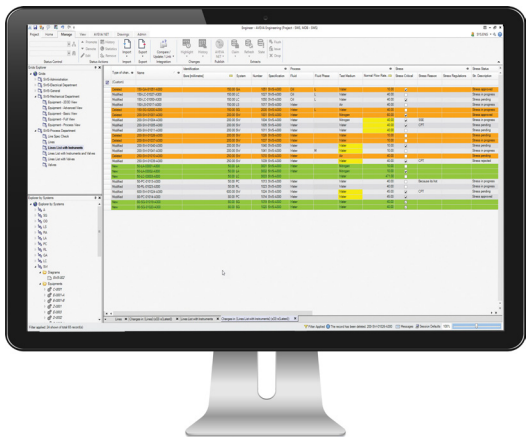
AVEVA Engineering correctly applies updates from one discipline to another, through controlled publication of issued data, notifying dependent disciplines when ready to accept changes.

Revision-controlled datasheets

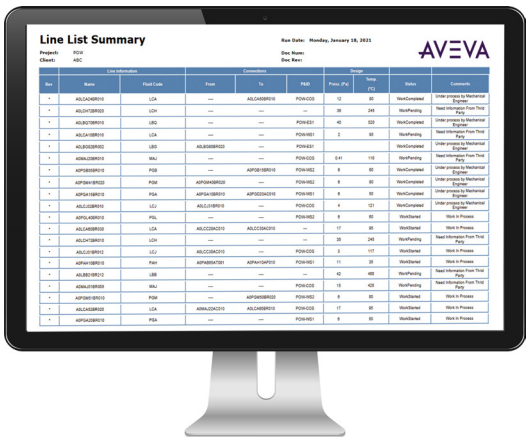
Create datasheets from predefined project templates and use them for data input and editing while working on the deliverable document. Users can choose their preferred input methods as data changed through list views is reflected in the datasheet views and vice versa. Customer-defined revision schemas provide datasheet version control. When "round-tripping" information to external agencies, such as equipment suppliers, re-imported data is change-highlighted, enabling you to accept or reject changes before updating the database.



Reference and use linked engineering data on schematic and 3D deliverables. The example shows process data from AVEVA Engineering included on a piping isometric drawing.



Automatic change highlighting can significantly reduce your team's wasted time.



Example report showing the completeness of attributes in a line list.

Controlled object revisioning

Engineering data created or updated by one discipline — process, mechanical, instrumentation, or electrical — is issued to the rest of the project team at a controlled release level using subscriptions and notifications. Other engineering disciplines can confidently use this change-controlled data in their own workflows.

Database-driven with proven, scalable, multi-user technology

AVEVA Engineering delivers the concurrent, multidiscipline, multi-user working environment required by project engineering teams on today's demanding plant and marine projects. Engineering, 3D design, and schematics data are all managed in a common project environment, enabling users to easily view and reference data from other disciplines. Users of AVEVA's schematics and 3D tools can reference and include AVEVA Engineering data in their deliverables.

Engineering tag management system

Easily define, assign, and manage digital tags for engineering data. Create and communicate new tag names across disciplines according to the class definition and naming rules. Thanks to the hierarchical data model featuring multiple inheritance and integrated naming rules, users can efficiently manage tag naming definitions and easily implement any changes to naming conventions.

The solution supports several parallel naming schemes, for example where separate internal and client names are required, or when different industry naming conventions like KKS are dictated. Users can carry out tag name changes needed due to re-classification and the consequences are fully managed across disciplines.

Built-in engineering capabilities

AVEVA Engineering is designed specifically for managing engineering data, including concepts such as object classification, process cases, duplicate objects (ie. clones), units of measure, maturity, and more.

Configurable project explorer

Define project breakdown structures to suit project and company standards. The project explorer mechanism offers a very flexible way to navigate and access the project data, according to each user's role. Because AVEVA Engineering stores data in the same project environment as the 3D and schematic data, users can define a project explorer that includes objects from all domains.

Compare and update

Compare AVEVA Engineering data against data created in other AVEVA products and/or external systems with compare and update, and selectively apply updates as required. This aligns new revisions of data from another engineering department more easily, quickly, and accurately.

Automatic change recording and highlighting

Efficiently implement changes using bulk update and search-and-replace features, which the database automatically tracks. Users can selectively view change information as they work, make additions and deletions, and highlight modifications within any dataset that a user is working with.

Built-in status control

Engineers have better visibility of the maturity of information, and source data can reflect project stage gates.

Data consistency checks

Detect a wide range of inconsistencies in the engineering data itself, and across the engineering, 3D, schematic, instrumentation, and electrical datasets.

Automatic reports direct from the database

Produce high-quality, formatted project reports directly from the database, optionally including charts and graphics.

Built-in viewers for P&IDs and the 3D model

View and reference schematic and 3D data while manipulating engineering data, with built-in viewers for P&ID and 3D.

In-context access to the full digital asset

Enable faster, better, and more informed decision-making with design-in-context capability. It creates a direct connection to the centralized digital asset repository.

Selecting an object in the AVEVA Engineering environment, dynamically updates the context panel with relevant available content , such as datasheets, vendor documentation, purchase orders, planning charts, and calculation sheets. Users can then open the content in context to the original object to help ensure they make decisions based on all available information.

Multi-location global working

AVEVA Engineering, as part of AVEVA Unified Engineering, deploys quickly and effectively across geographies, disciplines, and organizations. Easily set up and administrate global projects, saving your project team's time and effort.

Highly configurable

All aspects of the product, including the data model, engineering discipline boundaries, and access rights, are highly configurable. A powerful, built-in programming language (PML) and .NET APIs enable users to apply all kinds of customer/industry customizations and automation.

For more information, visit:
aveva.com/en/products/aveva-engineering