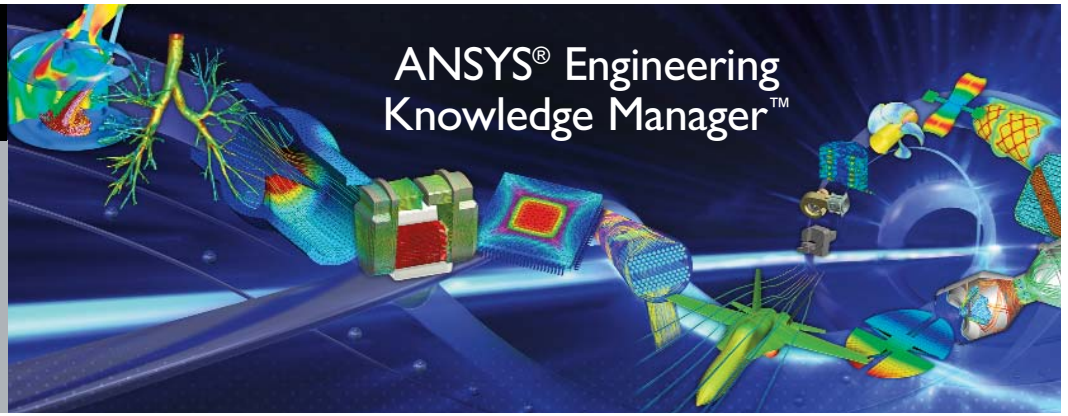


# ANSYS®

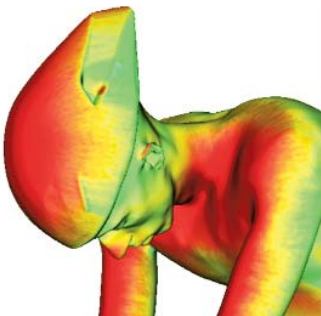
# 2.0

2.0 RELEASE



## Product Features

- ▶ Data Management
  - File repository
  - Automatic metadata extraction from supported and custom simulation file types
  - Lifecycle management
  - Multiple levels of signoff
  - Configuration management
  - Version control including check in/check out and reverting versions
  - Exclusive control
  - Branching
- ▶ Search
  - Keyword-based search including expanded syntax
  - Advanced simulation file search using metadata
  - Complex search criteria
  - Save search queries for later execution, editing and reuse
- ▶ CAE data support
  - ANSYS® FLUENT®, ANSYS® Mechanical™ APDL, ANSYS® Workbench™, ANSYS® CFX®, ANSYS® POLYFLOW® and HFSS™ simulation files
  - Easily configure other CAE products and tools
- ▶ Pedigree tracking with dependencies, with graphical display

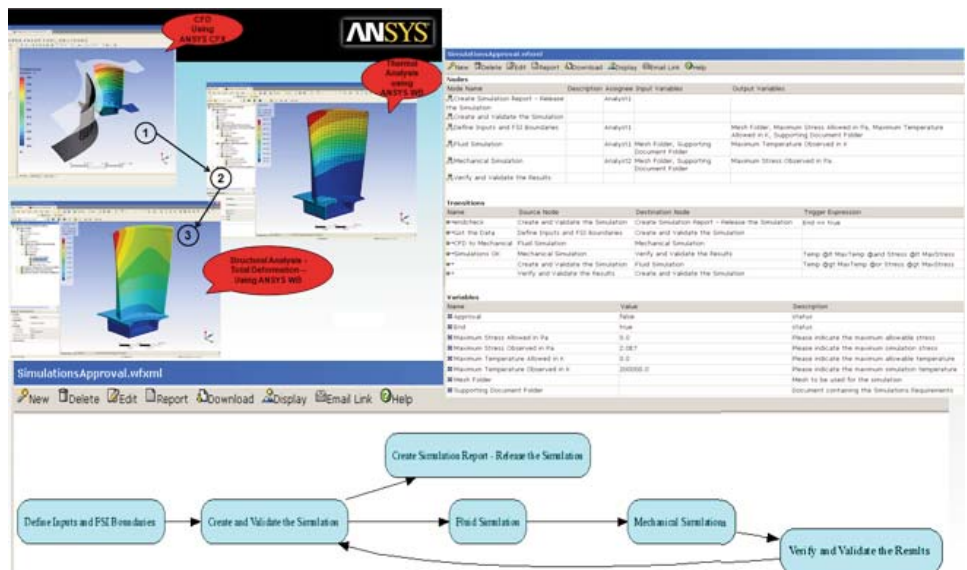


Courtesy University of Sheffield

Large volumes of data are generated by designers and engineers who use engineering simulation software to solve complex systems. And, most would agree that they prefer to spend more of their time solving difficult technical problems rather than archiving and searching for data. Simulation data tend to be widely distributed across an organization — ranging from storage on an individual desktop, to networked file servers and other remote devices. Simulation workflows often involve team members located in different geographic locations who hand off data to each other as part of a design or analysis process. Successful companies have found it essential to store data in a shared repository to facilitate seamless collaboration amongst engineering teams and foster knowledge reuse. ANSYS® Engineering Knowledge Manager™ (EKM) technology provides solutions that allow users to capture and manage simulation data, workflows and best practices to improve the efficiency and productivity of the simulation-driven projects that they contribute to. Unlike Product Data Management (PDM) or Product Lifecycle Management (PLM) software, the ANSYS EKM solution is dedicated to focusing on the simulation portion of engineering efforts.

## Data Management

ANSYS EKM software provides a centralized repository where data and processes can be stored and managed. Simulation information in the form of metadata, or properties, is automatically extracted and created by ANSYS EKM software and custom metadata tags can be added to files as well. Reviewing metadata is an effective way to assess the key attributes of a simulation without having to open and explore a file. Metadata that are associated with a file, in addition to its contents, can be used to retrieve simulation files from a vast repository based on simple keywords and advanced search criteria. Reports can be



Process management: running fluid and structural simulations in a collaborative workflow

## Product Features

- ▶ Report generation
  - Create detailed simulation reports with metadata, extracted results and associated images
  - Compare multiple table- and chart-based reports for a range of simulations
  - Data mining reports of simulation results files
  - Presentation report books

## Process Management

- ▶ Process automation
  - Decision nodes, branching, iterations
  - Email notification
  - Progress tracking
  - Signoffs
- ▶ CAE workflow management
  - EKM Studio for creating Workflow XML files in easy to use interface
  - Manage all aspects of simulation process
  - Batch job submission
- ▶ Deploy customized applications

## Access Management

- ▶ Web-enabled using a browser for login
- ▶ Enterprise access across a WAN
- ▶ Application portal for custom applications
- ▶ Job submission integration
- ▶ Cluster support
- ▶ Distributed locations
- ▶ Configuration and customization with XML files

## Scalable Versions

- ▶ ANSYS EKM Desktop – single user; local machine repository
- ▶ ANSYS EKM Workgroup – limited users; server repository
- ▶ ANSYS EKM Enterprise – unlimited users; server repository

generated that compare simulations, identify differences and list simulation “intent” as tables and charts in easy-to-read formats such as PDF, HTML, XLS and XML. Lifecycle management tools enable users to track the stages of a file or project folder by signoff processes that are based on electronic reviews.

Controlling access to data is key to protecting intellectual property. Configuration management tools allow users to place data under version control using check out and check in policies, and get exclusive control of files. Users can branch versions and restore archives.

With customizable data-mining tools, force, moment, flux and other specific parameters can be analyzed for a wide variety of simulation files to aid in the design process. Report books can be created that compile simulation file results and other project data into a single presentation report that can be shared with teammates and clients. A powerful scripting tool can be used to execute analyses manually or automatically, capture transcripts and send email notifications upon completion. Pedigree can be tracked for a file that defines upstream and downstream dependencies, and visually displays them in a graph.

## Process Management

The process management capabilities of ANSYS EKM technology allow the design and execution of primitive and sophisticated workflows involving users in the same workgroup, or team members spread across the globe. Using EKM Studio, workflow diagrams can be graphically defined and edited within ANSYS EKM. Artifacts that are created from a simulation task and require review and approval can be controlled by automatic sign-off processes. Stakeholders are notified by email when tasks are ready or completed and work items are placed in their queue. Processes can be easily monitored by managers. Whether a workflow is a simple sequential set of steps, or one that involves an intricate process with iterative and parallel tasks that launch automated batch jobs, process management tools in ANSYS EKM software will help engineering businesses solve efficiency challenges that are inherent in simulation design.

## Access Management

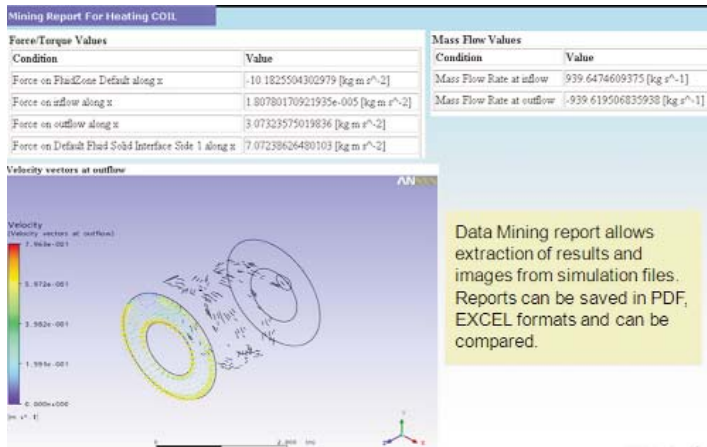
ANSYS EKM software is based on a web-enabled platform that provides enterprise-wide access to any team member, regardless of where the team resides. A user simply opens a web browser, types in a URL and logs on to ANSYS EKM. The web application portal allows multiple users to access the same database, making information easy to retrieve and share. Tools are provided that allow scheduling, queuing and executing simulation jobs remotely, offering the ability to seamlessly run simulations without requiring local resources.

**Customization:  
mixing tank  
custom application  
in ANSYS EKM**

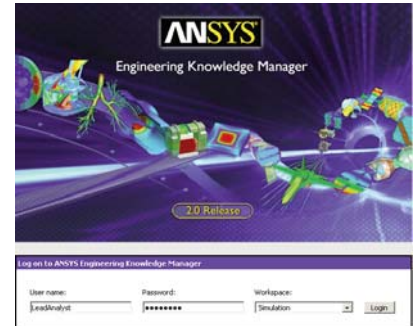
Report File Name	Condition	Value
1. Report For sim1	Axial Velocity	0.2 (m/s)
2. Report For sim1	Radial Velocity	0.3 (m/s)
3. Report For sim1	Swift Velocity	0.1 (m/s)
1. Report For sim2	Axial Velocity	0.2 (m/s)
2. Report For sim2	Radial Velocity	0.1 (m/s)

**A Scalable Solution**

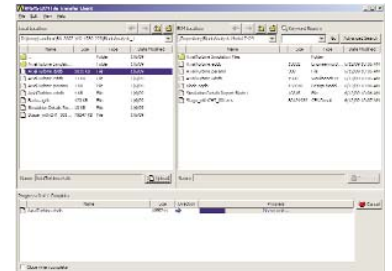
Whatever the requirements for simulation process and data management, ANSYS EKM software has a solution to fit the needs of engineering businesses. The ANSYS EKM portfolio includes ANSYS EKM Desktop, ANSYS EKM Workgroup and ANSYS EKM Enterprise versions to meet various levels of deployment. For the individual user, the ANSYS EKM Desktop version — integrated into the ANSYS® Workbench™ platform — allows users to store their data repository on a local machine as well as search and retrieve simulation files and create reports. Another component, EKM Connector, provides direct access to an existing EKM server allowing engineers to upload and download files directly to the server from the ANSYS Workbench environment.



**Data management: data mining report for a heating coil simulation**



**Launching ANSYS EKM from a web browser**

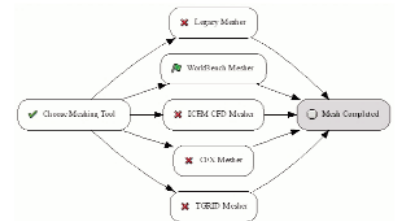


**File transfer client**

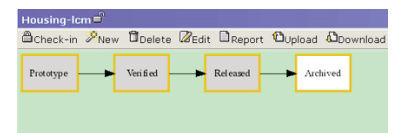
The ANSYS EKM Workgroup version is available for teams with a limited number of users who want to take advantage of the basic capabilities of the ANSYS EKM Desktop tool, but also need to effectively share models and data. File sharing is managed on a central server and process management tools are available. The ANSYS EKM Enterprise version provides an unlimited number of users with the full data and knowledge management capabilities of ANSYS EKM software, enabling companies to capture, secure and share their investment in simulation and protect intellectual property. Whatever the level of deployment, ANSYS has a feature set that fits your organization and can expand as your use of simulation matures.

**The ANSYS Advantage**

With the unequalled depth and unparalleled breadth of engineering simulation solutions from ANSYS, companies are transforming their leading edge design concepts into innovative products and processes that work. Today, 97 of the top 100 industrial companies on the “FORTUNE Global 500” invest in engineering simulation as a key strategy to win in a globally competitive environment. They choose ANSYS as their simulation partner, deploying the world’s most comprehensive multiphysics solutions to solve their complex engineering challenges. The engineered scalability of our solutions delivers the flexibility customers need within an architecture that is adaptable to the processes and design systems of their choice. No wonder the world’s most successful companies turn to ANSYS — with a track record of almost 40 years as the industry leader — for the best in engineering simulation.



**Process management**



**Lifecycle management**

## Version Feature Comparison

Feature	ANSYS EKM Desktop	ANSYS EKM Workgroup	ANSYS EKM Enterprise
Release Number	ANSYS 12.1	ANSYS EKM 2.0	ANSYS EKM 2.0
Installation and configuration requirements	Included in ANSYS 12.1	Out of box installation and usage, preconfigured with software components	Customized configuration, mix and match from the list of supported software components
Licensing (FlexLm-based standard ANSYS licensing)	Single user	Server, named users and simultaneous users	Server, named users and simultaneous users
Repository location	Local machine	Central server	Central server
User scalability	Single user	10- or 15-user configurations	Unlimited multiple users
Simulation data management feature scalability	Basic	Extended	Unlimited
Automated metadata extraction for ANSYS simulation files	Yes	Yes	Yes
User-defined property association	Limited functionality available	Yes	Yes
Advanced search	Yes	Yes	Yes
Keyword search	File name-based search available	File name-and-content-based search available	File name-and-content-based search available
Simulation Details report	Yes	Yes	Yes
Comparison report	Yes	Yes	Yes
Authentication mechanism (Windows® domain server or LDAP)	No	Yes	Yes
Dependency and pedigree	No	Yes	Yes
Change management, revision control, version control	No	Yes	Yes
Process management (the creation and publishing of simulation workflows)	No	Yes	Yes
Simulation collaboration using ANSYS EKM software as a web portal for publishing applications	No	Yes	Yes
Configuration/extension of metadata extraction and support for third-party simulation codes and other file formats	No	Yes	Yes
Object lifecycle	No	Yes	Yes
Bidirectional integration with commercial PLM/PDM systems	No	Yes	Yes
Integration with job submission	No	Yes	Yes
Distributed services (enables cache and batch services)	No	No	Yes