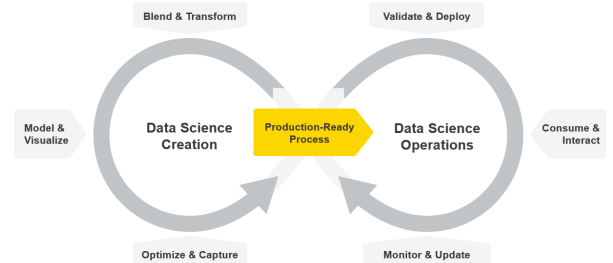# KNIME Analytics Platform
Creating Data Science

KNIME Analytics Platform is the open source software for creating data science. Intuitive, open, and continuously integrating new developments, KNIME makes understanding data and designing data science workflows and reusable components accessible to everyone.

With nodes covering all stages of the data science life cycle, thousands of ready to run example workflows, hundreds of components, a comprehensive range of integrated tools, and the widest choice of advanced algorithms available, KNIME Analytics Platform is the perfect platform for creating data science. Our steady position on unrestricted open source provides access to a global community of expertise and their contributions.

KNIME Analytics Platform for Data Science Creation and KNIME Server for Data Science Operations.

Build End to End Data Science

Build visual workflows
Create workflows using the intuitive, drag and drop style graphical interface - without the need for coding.

Blend data from any source
Open and combine simple text formats (CSV, PDF, XLS, JSON, XML, etc.), unstructured data types (images, documents, networks, molecules, etc.), or time series data.

Choose from nodes and components
Build your workflow, model each step of your analysis, control the flow of data, and ensure your work is always current.

Use pre-made blueprints
Select one of the thousands of publicly available workflows from the KNIME Hub, or use the integrated workflow coach to guide you through building your own workflow.

Blend Data and Tools

Blend data
Combine simple text files, databases, documents, images, networks, even data based on Apache Hadoop within the same visual workflow.

Integrate R and Python
Include R and Python code in your KNIME workflows, reusing expertise that is graphically documented and shared among data scientists.

Blend different tools
Blend state of the art tools easily: Integrate Apache Hadoop, Spark, and MLlib using the KNIME Big Data Integrations. Additional integrations include deep learning frameworks and other machine learning libraries (H2O, Weka, and more).

Document visually
Coding is optional and work is documented visually with the easy to learn graphical interface.

Leverage Machine Learning and AI

Build machine learning models
For classification, regression, dimension reduction, or clustering, using advanced algorithms including deep learning, tree-based methods, and logistic regression.

Portable and durable
Optimize model performance with hyperparameter optimization, boosting, bagging, stacking, or building complex ensembles.

Validate models
Apply performance metrics including Accuracy, R^2, AUC, and ROC. Perform cross validation to guarantee model stability.

Make predictions
Use validated models directly, or with industry leading PMML, including Apache Spark.

Nodes for the Entire Data Science Life Cycle

- Connectors for all major file formats and databases

- Native and in-database data blending and transformation

- Support for a wealth of data types such as XML, JSON, images, documents, networks, time series, and more

- Advanced predictive and machine learning algorithms

- Integrations with state of the art machine learning libraries: H2O, Keras for Deep Learning, Scikit-Learn, and others

- Interactive data views and reporting using web-based methods
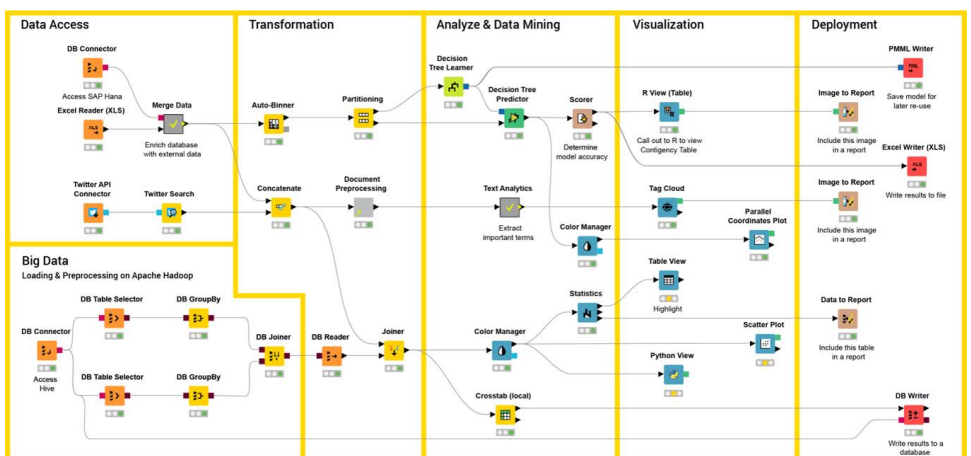
KNIME Analytics Platform covers all stages of the data science life cycle.

Connect Seamlessly from KNIME Analytics Platform with Extensions and Integrations

A large variety of KNIME Extensions provide access to complex data types, plus advanced machine learning algorithms. KNIME Analytics Platform and KNIME Server integrate seamlessly with many other open source projects.

Access Apache Hadoop data as well as Hadoop data storage such as Hive and Impala. Model and run Apache Spark jobs and access the power of scalable analytics in local KNIME environments. Use pieces of R or Python code within a KNIME workflow, build a predictive model, apply that model to new data, or simply create other types of visualizations. Read, create, edit, train, and execute deep neural networks. Keras provides access to deep learning frameworks such as TensorFlow, CNTK, and others. Integrate data from Amazon Redshift, H2, Hive, Impala, Microsoft SQL, MySQL, Oracle, PostgreSQL, and more.

Community Extensions are open source contributions from other KNIME users and are accessible from within KNIME Analytics Platform. Partner Extensions offer a commercial set of capabilities, ranging from industry specific applications to sophisticated, scientific software integrations - all created and maintained by KNIME Trusted Partners. Users can package their own code into KNIME by using the KNIME SDK environment and also contribute to the KNIME Community.
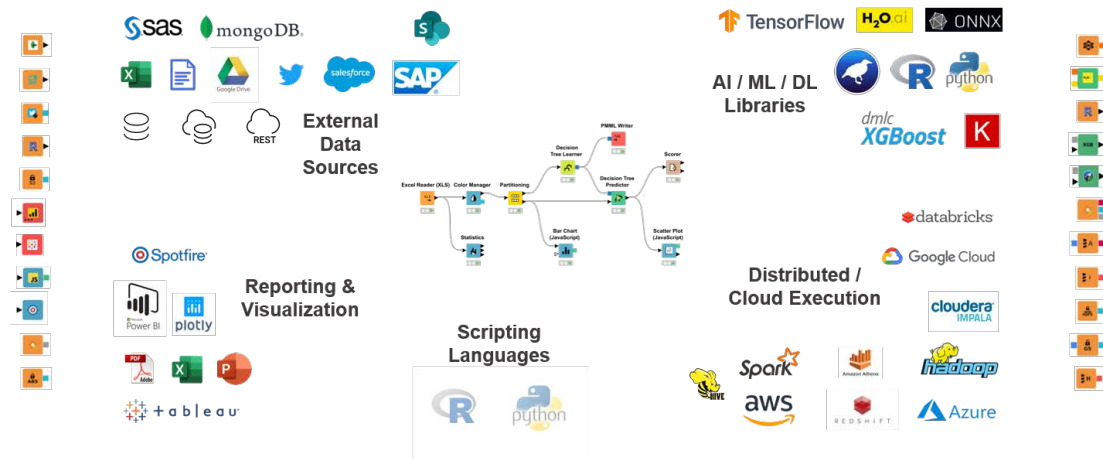

External tools and software that integrate seamlessly with KNIME Analytics Platform.

KNIME Server: Productionizing Data Science

KNIME Server complements KNIME Analytics Platform and is the enterprise software for team based collaboration, automation, management, and deployment of data science workflows as analytical applications and services. KNIME Server comes in three editions for organizations and teams of all sizes and enables the following enterprise functionality:

- Integrated Deployment for closing the gap between creation and production of data science without manual intervention
- Automatic workflow execution with the ability to view, edit, and execute workflows remotely
- Guided Analytics for building applications and giving users the appropriate level of interaction at any stage of the life cycle
- Governance and compliance through the explainability / interpretability of models, GDPR compliance, metadata mapping, and more
- Flexible cloud and hybrid deployments to meet computing and budgeting needs - also with auto-scaling functionality

KNIME Software: one ecosystem.
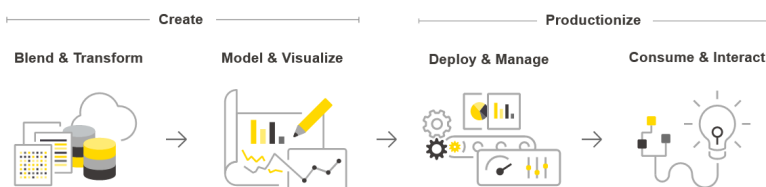
At KNIME, we build software for fast, easy, and intuitive access to advanced data science, helping organizations drive innovation. For over a decade, a thriving community of data scientists in over 60 countries has been working with our platform on every kind of data: from numbers to images, molecules to humans, signals to complex networks, and simple statistics to big data analytics. Our headquarters are based in Zurich, with additional offices in Konstanz, Berlin, and Austin. We're open for innovation®, so visit us at KNIME.com.

Open for Innovation
KNIME