

# Real-Time Tags

## Tags, Assets and Templates



### TAT and Real-Time Elements

Tags, Assets, and Templates are the core components to real-time data modes and are the power of **FactoryStudio**. Our company name (Tatsoft) even has Tags, Assets, and Templates built into it. The **FactoryStudio** system has a built-in, real-time, event driven, in-memory database, that manages tags, assets, and events.

### Real-Time Tag Types

A typical HMI-SCADA system has only basic tag types, such as numeric and message tags. As **FactoryStudio** targets IT and MES systems, it goes far beyond basic tag types and supports real-time entities that match every SQL type and many **.NET Framework** entities, including Images and a complete DataTable in a single real-time tag.

### Dynamic Arrays and References

**FactoryStudio** was the first and only real-time system with built-in support for tri-dimensional dynamic arrays, lists, and type-safe reference tags with dynamic assignments. This creates reusable components on displays, symbols, reports, calculation, and in any part of your project.

### SQL Databases and .NET

The built-in tag types allow direct mapping to any SQL database or .NET variables.



#### About TAT

TAT can stand for Tag, Assets, and Templates, but it is also a word from the Sanskrit language, related with the physical reality of the Universe. Visit [Tatsoft forums](#) to learn other TAT meanings

### Assets and Categories

Organize your project with categories and assets. An asset is composed of tags and other application objects connected to your process hierarchy. **FactoryStudio** allows implementation of ISA 95 modeling specifications, which can be essential in large systems.

### Templates

Templates are user-defined structures, similar to .NET classes, that allow composition and hierarchy. Besides the built-in basic types, real-time tags can be created based on templates that reflect physical assets, which speed up and simplify the application development.

### Import and Synchronize

Tags and templates can be imported and automatically synchronized from various data sources including: XML and CSV files, OSIsoft™ PI System™ and PI AFTM, Rockwell™ ControlLogix program files, and OPC servers.

### Tag Editing Features:

- Tag based Security
- **Refactoring** allows renaming any object, anytime. No more need for global search and replace commands
- **Intellisense** shows sensitive auto-fill information in all fields. No more typing names
- **Cross-reference** is available for all project elements, not only tags!
- **Dynamic validation** means the system validates the fields as you type, which prevents configuration errors.

## Automated Project Definition

### Standard Project Configuration

Each **FactoryStudio** project is stored in its own encrypted SQL database file. This architecture makes it easy to update to newer versions whenever we add any additional tables or columns to existing tables. This is easier to do than working with proprietary file structures.

### External Tag Integration

As of this printing, **FactoryStudio** can automatically use tags from Rockwell ControlLogix and CompactLogix, OPC Servers, Unity Pro PLCs, Wonderware Intouch projects, Beckhoff TwinCAT, OSIsoft PI Systems, or PI Asset Framework (AF) Servers.

**FactoryStudio** includes the ability to import resources such as graphical objects, script code, communication configurations, and project components. This can be done directly into any configuration table being used. Entire project configurations can be managed outside of **FactoryStudio**, and then imported all at once.

### .NET API for project definition

A powerful and simple to use .NET interface provides the ability to use C#, VB.NET, or any .NET language to create project configurations from your own code.

### From Excel/CSV to tags and displays

All Tag definitions, alarms, communication mappings, historians, and symbols for displays can be created from a one file CSV import. Easily create your project by creating your project's specification in Excel and importing them with one click.

### OSIsoft PI Integration

**FactoryStudio** supports native connectivity to OSIsoft PI Systems, directly accessing PI tags. It also supports native connection for the **Asset Framework (AF)** and **Event Frames (EF)**. The entire AF data structure can be either imported to **FactoryStudio** or accessed directly from the AF server, with no data replication or importing.

### Bring legacy HMI/SCADA projects

To automatically bring in most of your previous project definition to state-of-the-art **FactoryStudio** projects, you can use the reporting and export tools from your old HMI and SCADA software.

### Object Model configuration

**FactoryStudio**'s use of templates, with connected Symbols and properties, cuts the time needed to create your application, while providing easier maintenance and extensibility.



 See detailed documentation of this feature [here](#).