Intuitively Design and Operate Digital Twin Models with Data Tables

Designing and operating conventional simulation and digital twin models is a time-consuming process that includes the following steps:

- Dragging and dropping objects from pre-built libraries
- Defining the operational behavior of each object according to its properties
- Configuring the model to function accurately

Although dragging and dropping objects from a pre-built library simplifies the design process, assigning properties such as rules or complex logic to objects creates its own set of difficulties… and any increases in the complexity of the facility's operations create further modeling challenges. For example, developing the complex rules required to model the process of choosing the fastest option between two production lines requires extensive design activities. The designer must consider the crucial operational behavior of each line and integrate them as rules.

Simio eliminates the difficulties associated with designing models using traditional methods by providing you with the intuitive use of data tables. Using data tables you can create and define objects using data coming from real-time data capturing sources. This process involves the following steps:

- Integrating your enterprise data with Simio
- Define objects by using enterprise data
- Modify models in real-time by changing object data

The ability to modify object parameters by tweaking your data is an intuitive approach that eliminates the need to define operational behaviors for every object and continuously redefine these behaviors to capture changing parameters. Thus intuitive approach speeds up the simulation and digital twin modeling process to support real-time operations.

Why You Should Use the Data Tables Design Approach

Data tables provide you with a powerful tool that empowers you to leverage your enterprise data. These enterprise data sets could be from your ERP systems, IoT frameworks, edge devices, and even

conventional data-storing solutions such as excel sheets. The value-added advantages of using data tables include:

- Rapidly designing models to evaluate diverse operational scenarios such as evaluating the impact of additional resources
- The capacity to identify bottlenecks in real-time across production lines and processes to improve productivity
- Supporting the use of digital twins to develop optimized real-time schedules
- Optimizing capacity and resource planning processes to provide project managers with the information needed to make accurate decisions.

Use Cases for Data Tables

Simio integrates the use of data tables to enable you to simplify design and operational activities when developing:

- Supply chain and logistics models
- Production and scheduling plans
- Developing Digital twins from scheduling models
- Capital planning and process optimization models
- Resource planning, labor planning, and materials management models.

To inquire about using Simio Data Tables, click here.