

## Chapter 3 – Navigating Through Arena

Various elements of the Arena window are discussed in this section, all in reference to Sample Model 1 in Figure 3.1 below.

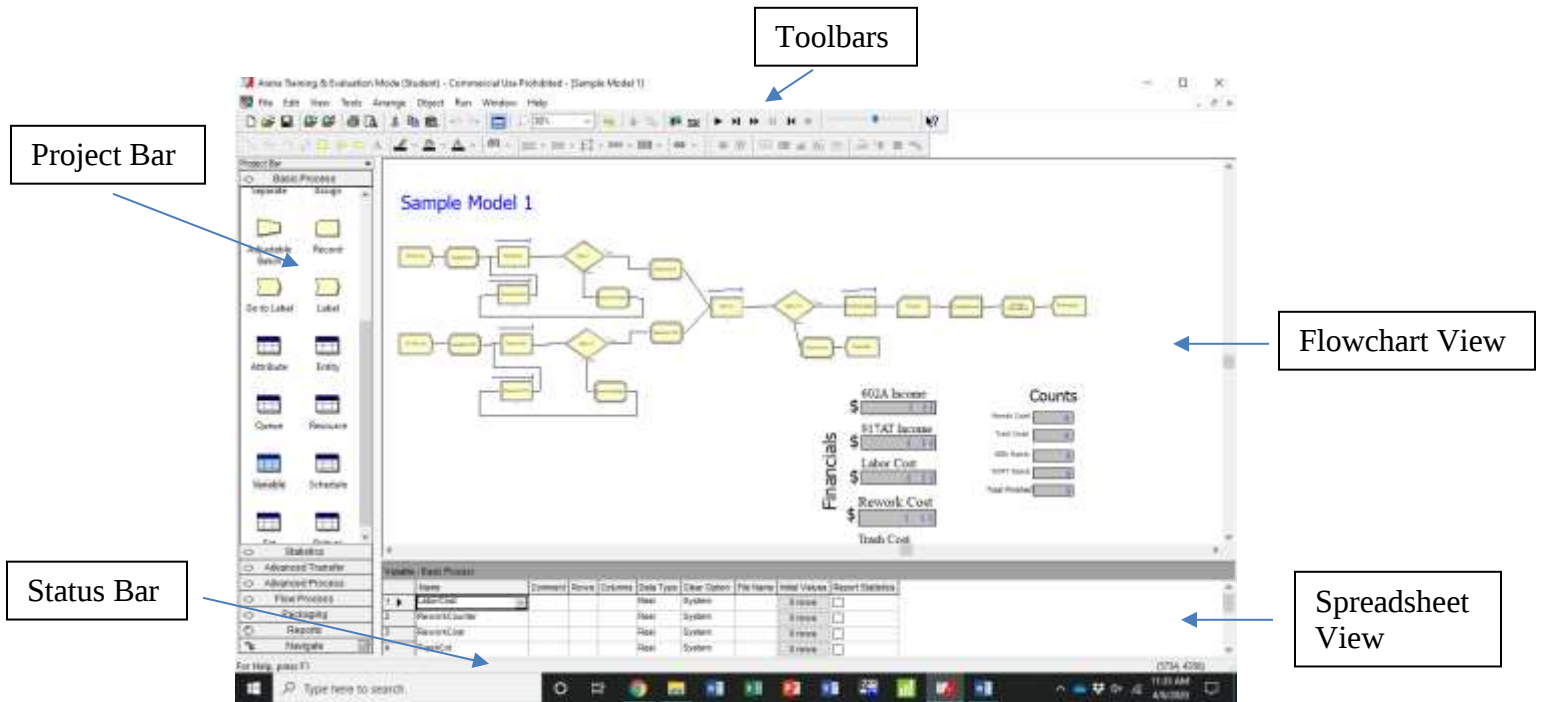


Figure 3.1. Arena Window

### 3.1 Elements of the Arena Window

#### 3.1.1 Toolbars

The Toolbar section of the Arena Window consists of several templates that can be added or deleted. The first template consists of the familiar icons from Microsoft<sup>TM</sup> Windows<sup>TM</sup> operating systems. These icons include Create a new document, Open Folder, Save, and so on. To the right of this template is a template with features that one would see on media equipment, such as Go or Run, Lurch Forward, Turbo Speed, Lurch Backward, and Stop or End Run. In the second row, we find different shapes that we can copy/paste into our model. Some shapes, like the Square, Call-Out, and Ellipse can be enlarged or reduced in size by dragging one corner of the shape. Additionally, the color of these shapes can change by clicking on the Paint Can icon, which opens up a color palette, and then you can select which color you desire. By right-clicking on the shape, the analyst is afforded an option as to place it in front of or behind modules. You would left-click on the option you desire and position the shape where you want in your model. Other templates may be added as

desired, such as Animate Transfer or Transporter. To add other templates to the Toolbar, move your cursor anywhere in the Toolbar ribbon, right-click to open a drop-down menu, and then left-click on the template you wish to add.

### **3.1.2 Project Bar**

The Project Bar displays different Panels on the left-hand side of the Arena Window. It can be moved to the right-hand side of the Arena Window, if desired, but the Project Bar is normally kept visible while constructing your model. If you want to hide the Project Bar,

In the Project Bar, we observe panels for Basic Process, Statistics, Advanced Transfer, Advanced Process, Flow Process, Packaging, Reports, and Navigate in Figure 3.1. Within each panel, a series of modules and data modules resides, each with its own specific function.

The Basic Process panel consists of modules such as Create, Dispose, Assign, Process, Batch, Separate, and Record. Modules from the Basic Process panel are used for new parts or people entering the system, for various processes in the system, and for assigning values for attributes and variables to name a few.

The Advanced Transfer panel consists of modules such as Station, Route, Convey, Access, Exit, Request, Transport, and Free to name a few. The Advanced Transfer panel is used when we want to animate our model and if we desire to include material handling equipment such as conveyors or forklifts to transport materials.

The Advanced Process panel consists of modules such as Match, Hold, Seize, Store, and Unstore to name a few. The Advanced Process panel is used to match different parts into a kit and for holding, seizing, storing, or unstoring entities during a simulation run.

The Reports panel will display another panel containing a road map to the simulation results after the model has run to completion. Click on this panel to make it visible. Click on any other panel to make it visible again.

The Navigate panel allows you to display different views of a model, including different submodels in a hierarchical model.

### **3.1.3 Flowchart View**

The right-hand side of the Arena Window is split into two views: the Flowchart View and the Spreadsheet View. The Flowchart View is where we will construct the logic portion of our model. This consists of the infrastructure of our model (by dragging Modules from the Panels into the Flowchart View) and may also consist of both Static and Dynamic resource images, if desired. By double-clicking any module to open its dialog box, we can enter additional information. Modules are the fundamental building blocks of any Arena model. Flowchart modules, each with a distinctive shape, describe the dynamic processes in the model.

### **3.1.4 Spreadsheet View**

Data modules are located beneath the set of Modules in each Panel. We can enter additional information here that we are not able to enter in the Flowchart View. When we click on any data module, it automatically opens the Spreadsheet View below the Flowchart View for that particular data module. If you are only able to see the Flowchart View, move your cursor down to “grab” the top of the Spreadsheet View and pull it up so that you see both the Flowchart View and the Spreadsheet View on the right-hand side of the Arena Window.

Data modules (look like small spreadsheets beneath the modules in each panel) define the characteristics of various process elements, such as entities, resources, and queues. Data modules exist behind the scenes in a model to define different kinds of values, expressions, and conditions. Single-click any data module in the Project Bar and a spreadsheet for that type of module will appear in the spreadsheet view of the model window. You can edit data modules and also add rows by double-clicking where indicated.

### **3.1.5 Status Bar**

The Status Bar at the bottom of the Arena Window displays information such as simulated run time, replication  $x$  of  $x$  number of replications, and coordinates of the cursor.