



**SI** System  
Integrator

# D-TOOLS: HIGHER EDUCATION

# HOW A DATA-DRIVEN PROCESS CAN HELP STREAMLINE SYSTEMS INTEGRATION FOR HIGHER EDUCATION

In today's challenging higher education market, technology managers and IT departments are wearing more hats than ever before simply to ensure they are able to complete projects that meet or even exceed their budgeted cost and time expectations. Many phases of a higher-education system integration project tend to overlap and as the lines blur, productivity typically depreciates.

In this article, we'll explore three different areas of the systems integration process within higher-education infrastructures where technology managers and IT departments face potential pitfalls, and how implementing a solid, data-driven software solution such as D-tools System Integrator can help overcome them. Estimation, System Design, and Project management—all crucial to the systems integration process—are often managed separately or not at all. However, when these project phases are managed with a software application and dynamically linked together by product data, the benefits become immediately apparent.

# SYSTEM INTEGRATOR SOFTWARE SOLUTION OVERVIEW

D-Tools System Integrator (SI) is a complete estimation, design, and project management software solution that fits the needs of higher education facilities, large or small. A robust business process automation solution, SI helps increase productivity while reducing time and costs associated with the design, installation, and integration of AV, Energy, Automation, Lighting, Security, and IT/Networking systems.

## 3 Areas of Focus

### Estimation:

Estimation can be difficult as it can often be challenging to find essential products for a given project, and can also be extremely time consuming. When each proposal consists of repetitive tasks, copying, pasting, and locating necessary products, it can easily lead to overlooked equipment needs and underestimated labor time that results in confusion and lack of support for the project. Furthermore, without proper project estimation, proposals may be incomplete and inaccurate.

*“Before implementing D-Tools SI, our team was forced to research parts pricing multiple times just to get the project’s budget to align with the design. It was inefficient and ineffective to say the least, and we didn’t have the complete buy-in for projects we needed. Now, everyone with a say in the matter is more engaged and aware of the overall scope.” - Western Carolina University*

It can also be difficult to accurately determine budget adherence per project. Allocated time per project phase can be under-estimated and common project materials, such as wire connectors, can be overlooked and when tallied up, potentially result in significant job cost expansion.

Implementing a systems integration software solution such as D-Tools SI can help with the creation of fast, accurate proposals. Because all pricing and product data is driven from a constantly updated database—where all of the information is readily accessible—system designers and internal teams can dramatically reduce the time it takes to research products for proposals, which in turn provides everyone the ability to react to requests more quickly thereby ensuring the best chance to complete additional projects.

*“For seven years, our team had been battling the inefficiencies created by redundant tasks. With SI, we get an idea for how much a project will cost when we begin the design, rather than once everything has been fully sourced” - Western Carolina University*

## System Design:

Successful IT groups, tech managers, and system integration companies working with Universities establish a series of project phases in order to complete projects satisfactory to the educational institutes' expectations and System Design is no exception. This particular project phase is extremely important because it's the clearest way to communicate the parameters of the project to the higher education decision makers as well as to in-house install team members. Concise designs provide a guide for the project installers and team members or subcontractors to follow, ensuring accurate and efficient project execution.

*"Project documentation always seemed to take a second seat to anything else we were doing. Not anymore. With D-Tools SI we're now able to produce things like wiring diagrams that we can archive for future reference."* - **Western Carolina University**

While some Universities have an in-house Engineering resource to create system designs, others outsource their design work and some completely omit this phase altogether, which is never a good practice. By including professional system designs in proposals, the overall readability and aesthetic of those proposals will not only be dramatically boosted, a tangible representation will be provided of their finished system so they are able to visualize the results of the end product. Having a solid System Design in place can easily be the differentiator that helps solidify the project.

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Including accurate and detailed data within the initial estimate streamlines the entire design phase because the data is automatically carried over from the estimate to the design phase, saving a sizable amount of design creation time. By utilizing the D-Tools System Integrator software platform, systems can be designed using Visio and AutoCAD, both of which are considered industry standard tools for technical drawings. SI allows users to get going quickly when they need product data. It contains not only access to a library of over 1 million products ready for download, but also an extensive suite of data management tools that allow users to import or add data from almost any source. Because everything in SI is data driven, users can quickly create proposals and drawings by adding products from D-Tools' extensive manufacturers database. From there, users can quickly and easily design floor plans, line diagrams, schematics and elevations, creating an accurate system design for both institution and installation team.

In addition, SI gives the user the ability to design the system first and eliminate the time-consuming documentation that follows. This allows for the project to be started directly in Visio or AutoCAD—build desired drawings and layouts, and it will produce all of the documentation from budgetary proposals, equipment lists, and wire schedules to wire labels. Ultimately this eliminates the need for time-consuming manual documentation that has to continuously be updated with drawings. This proves to be a much more natural way of designing a system and reduces errors.

*"Prior to System Integrator, we used Microsoft Project, Excel, Word and Visio for planning and design. For any given project, we had multiple versions of spreadsheets, project files and documents to create and maintain. Now, we no longer have to keep track of the various versions; D-Tools does it for us automatically. It allows us to keep all of the associated project documentation in a centralized location that can be easily accessed by anyone on our team. Moreover, updates are made in one place but are reflected throughout the system, so it's incredibly efficient."*  
- **Western Carolina University**

## Project Management:

Project Management is quite possibly the most important aspect of a System Integration project because it's the framework that helps determine the overall success. Unfortunately, due to disorganization, it is often implemented improperly, which results in inaccurate time and cost tracking that can waste valuable resources which could be used to complete projects as according to plan. Utilizing System Integrator's project scheduling, resource management, and powerful reporting capabilities can help ensure that the job is delivered on time and within budget.

SI also facilitates project management by improving communication between internal team members. SI makes it easy to assign tasks to internal installation and programming teams, schedule those tasks in a master project calendar, then communicate those tasks via email, task, or appointment via integration with Microsoft Outlook 2007 or 2013. SI can also help create purchase orders that can be used to track products that have been selected and are ready to be installed, or they can be used to push project data information to other software applications such as QuickBooks or CRM systems for accounting and inventory tracking. Additionally, SI can track labor tasks, installations, and resource scheduling by generating a project work order. Consistent use and tracking of work orders used in conjunction with SI's new project scheduling and resource management tools will help improve the accuracy of product-based labor estimates over time.

*"With D-Tools, we are now able to keep accurate pricing information to use in our budgeting. We can also keep a list of our standard vendors and include some of their pricing options for our state convenience contracts. Our team uses this information to provide a better project proposal to our customers and to help keep our pricing procedures and convenience contracts as transparent and consistent as possible."* - **Western Carolina University**

Product data is the link between the estimation, design and project management phases. By utilizing the comprehensive project management capabilities that D-Tools SI offers, thereby linking each phase cohesively, overall satisfaction is heightened. With better project tracking, it is far easier to address system adjustments and react to potential issues before they become major problems.

*"System Integrator makes the system design process faster and more effective, which in turn saves time and money. It communicates project scope to all involved and in many cases, helps refine the project so that it better fulfills the needs of the faculty, students and those who will most often utilize the system. It provides needed clarity and in our experience, processes that used to take two weeks can now take closer to two days."* - **Western Carolina University**

SI also offers the ability to schedule and manage Tasks and Service Orders, all within the same application. Once the project is built using the estimation and design tools, users can plan out the installation schedule from start to finish. The built-in scheduling tools factor in estimated install times on products for accurately planning the install timelines. The schedule can also be viewed from the web-based calendar and the Mobile Install functionality. Mobile Install gives users the power to publish install Tasks and Service Orders to a portal powered by the D-Tools cloud that can be accessed by technicians and installers in the field from any web-enabled device. Installers and Technicians can track install time and completion status, take photos, take of the install, add items to Service Orders, and sync information back to SI for accurate time and install tracking. SI also features integrated project revision tools to track changes to projects, and also view and create Change Orders.

“With D-Tools System Integrator, we’ve been able to keep better track of equipment pricing and the Packaging/Bundling option has been a huge benefit. We’ve been able to incorporate things like large instructor stations but can also configure smaller ones as needed, incorporating items they’ll need for the specific environments they’re designing:

- Digital Signage Bundle
- Standard demo classroom or Electronic classroom (one teacher as well as multiple student stations)
- Dual/Multi projector rooms
- Auditoriums
- Collaboration rooms
- Conference rooms
- Standard or touch-panel control system packages
- Projector or monitor based rooms

– *Western Carolina University*

### **Summary:**

Implementing D-Tools System Integrator will create a dynamic business process that promotes organization by assisting with the initial estimation phase, a method to create clean and concise designs, and a firm basis for project management. Accurate product data that is linked between project phases provides higher-ed tech managers and IT departments with a synchronized process to track project elements including equipment, labor, and time management.

Quite simply, no other application allows integration of the entire business process, enabling increased efficiencies, reduced time and costs, and increased overall satisfaction per project.