XyoTech Services

Realizing that the Microsoft Excel platform is used extensively throughout industry in many individual engineering disciplines, XyoTech Engineering Associates was formed to assist our customers in their challenge to become more productive and competitive in the marketplace. XyoTech can provide value in several areas, and at several levels, depending on the need and desires of our customers.

Commercial-Off-The-Shelf (COTS) software applications are generally designed to perform a specific function, and often impose very strict operating assumptions, a complicated input structure, and a cumbersome and steep learning curve. Engineering rarely falls within the “do it this way all the time” philosophy of COTS packages. More likely, each new project undertaken has its own unique characteristics and requires a different approach to design and analysis than those of previous projects. This results in either executing each effort manually, attempting to coerce commercial software to perform the desired function, or the investment of time and money into the creation of tools specifically for the active project. Although the development of automated tools for a single program may at first seem difficult to justify, the benefits obtained once the tools are in use far surpass the initial investment cost.

XyoTech can assist in the development of unique, customized engineering tools (or suites of engineering tools) that reduce preliminary nonrecurring engineering costs. This is accomplished by creation of not only the automated tool capability itself, but the collaborative development, along with the customer, of the underlying analysis methodology so that consistency of results is assured, and so that the solution is coincident with the customer’s standard work processes. While most engineers are familiar with the Microsoft Excel environment, few are conversant with the powerful Visual Basic capability that dramatically enhances the flexibility of Excel to perform complex engineering tasks. We have the knowledge and experience to create relatively comprehensive engineering tools quickly and inexpensively, and in accordance with our clients’ specifications.

We can also, if desired, provide the comprehensive training required to fully understand the features, structure, and syntax of the customized tools so that the cognizant engineers are able to confidently make modifications and enhancements to the tools without the further assistance of XyoTech personnel. In this way, the engineering staff members are developing in-house expertise in Excel and VBA that will serve them well in the future as other needs arise for customized applications. XyoTech promotes and encourages a structured approach to custom tool development. This philosophy is a key component of our instructional methods. We coach our students to follow a systematic approach to tool development that will pay dividends in their future efforts.

Frequently, many customers simply request that XyoTech provide the fundamental training in Excel and VBA to their engineering staff so that these individuals can create their own automated tools through their own projects as the need arises. We emphasize a functional approach to engineering modeling, which leads to a more structured environment for parameter input, results interpretation, system optimization, and uncertainty analysis. On-site training is our specialty, and we offer a variety of courses, both beginning and advanced, depending upon the needs of your organization. This training is guaranteed to improve the productivity of your engineering staff.

XyoTech Engineering Associates stands ready to work with our customers. Let us know how our expertise can assist you in addressing your strategic needs.

The following list provides some examples of how we have contributed to our customers’ success in expanding their Excel/VBA capabilities. Scan through this list and see if any of these activities might be beneficial to your business.

- Bundling of Customized Engineering Tools into Excel Function Libraries

- Conversion of Legacy Fortran Code to Excel-Executable Modules
- Integration and Automation of Excel with Other Microsoft Applications (Visio, Project, PowerPoint, Word, Access)
- Implementation of Security Features to Protect Custom Excel Applications
- Automation of Data Reduction and Regression Analysis from Test Data
- Development of Graphical User Interfaces to Support Excel-Based Tools
- Creation of Specialty Engineering Functions and Procedures
- Web-Based Access for Custom Excel Applications
- Construction of Component Models to Support Systems Analysis
- Systems-Level Modeling and Optimization for Improved Design Characteristics
- Linking of Third-Party Software Input/Output into Excel
- Incorporation of Externally-Developed Excel Add-ins
- Excel Database Management and Custom Report Generation
- Knowledge Base Collection and Storage through VBA Executable Modules
- Automatic Emailing of Excel-Generated Reports using Outlook
- Distribution of Standardized Analysis Methods to the Engineering Community
- Documentation of Excel Tools and Creation of On-Line Help Files
- Revision and Recasting of Existing Analytical Tools into Standardized Format
- Management of Proprietary Data Embedded in Excel Workbooks