Case Study for CABLEVEY

Company profile

Intraco, Inc. was founded December 22, 1971, as an import/export company for agricultural equipment. During the early years, Intraco, Inc. began distributing many lines of equipment both in the USA and many foreign markets.

The intense desire to satisfy the needs of the agriculture industry gave Intraco, Inc. a chance to improve a sector of the industry that was lacking efficiency, the feeding system. Intraco, Inc. decided to manufacture and market its own line of feed conveying equipment with the trade name CABLEVEY.

The first CABLEVEY system was installed in Ontario, Canada in 1974. Extensive research and marketing of the CABLEVEY feeding system began later that year, involving shipments to Canada, Australia, and England. Since that time, thousands of CABLEVEY systems have been manufactured and installed in 47 states and 35 foreign countries. The component parts of the CABLEVEY system, totaling over 470, are manufactured and fabricated by 50 suppliers located throughout the Midwest USA

Over 300 people are involved in CABLEVEY systems fabricating and marketing chain, including manufacture, assembly, packing, crating, shipping, sales, service, office and administrative personnel.

Intraco's percentage of exports to total sales has grown from 25% in 1974 to 50% at the present time.

The President of Intraco, Inc. was presented the President's "E" Award, a certificate signed in the name of the President of the United States by the Secretary of Commerce, at a special ceremony held in conjunction with a World Livestock & Poultry Seminar in August of 1979.

In 1985, Intraco applied knowledge obtained from agriculture conveying and began to develop products for the industrial markets. 1990 was the first installation of the 4" diameter tubular conveyor now being used for a wide variety of materials and installed in various applications.

Representatives of Intraco, Inc. have been involved with trade delegations going to underdeveloped and emerging countries coordinated by the United States Department of Commerce.

Intraco, Inc. will continue to be a leader in the industrial and agricultural markets with an aggressive approach to the manufacturing and marketing of CABLEVEY and distribution of it along with many other products serving the entire World.

Business situation

CABLEVEY Sales Engineer, Kevin Schippers, realized that the manual process of loading parts and sub-assemblies into new assembly documents for their SolidWorks CAD software was time-

consuming and full of redundant activity. He wanted to find a way to automate and streamline that process.

Technical situation

CABLEVEY workers use SolidWorks CAD software on both 32-bit and 64-bit computers running Windows 7 Professional to create new assembly documents. SolidWorks software includes customization features that allow operators to write their own VBA programs to enhance their unique business processes within the software. CABLEVEY has some in-house programming expertise, but not what was required to exploit these features for the desired objectives.

Lists of parts and sub-assembly quantities required for each new assembly are stored in specific network locations, in unique Microsoft Excel spreadsheets, standardized for specific types of assemblies.

The process of building a new assembly document started with manually locating and opening the appropriate assembly parts spreadsheet to get the required list of parts. A new assembly document was created using a SolidWorks template. Each individual part and sub-assembly document required in the new assembly then had to be manually located and loaded.

Approximately 34 new assembly documents were being created each work day by each worker. Eliminating the time required to manually locate and load parts into new assemblies would mean increasing the number of assemblies that could be created each day by each worker.

Solution

Mr. Schippers contacted Mahaska Data Technologies, L.L.C. (MDT) to assist with VBA programming services to automate this process.

The MDT programmer reviewed the process requirements, the code that had already been written, then modified the existing code to read part and sub-assembly information from the required Excel spreadsheets, use that data to generate a part file path, open the file, and load it into the new SolidWorks assembly document.

The complete VBA program included thorough error-checking, and features to allow the worker to specify the path to the required assembly parts spreadsheet for the new assembly.

Benefits

The completed automation process was tested and found to reduce a manual process that took 2 minutes, 9.7 seconds to 29.7 seconds – a 436.7% improvement! Using this example for the 34 assemblies generated by a single worker in a day, the time savings for this example came to 56.67 minutes – almost a full hour for a single worker.