



Diligentiam  
diligence as a strategy

# Research & Development

## A Tax Credit Case Study

### Scope of the Project

ABC Automation is a designer and producer of automated conveyor and assembly systems. It specializes in developing complex systems that will provide efficient automation within the production plants of its customers. ABC's solutions consist of robotic cells, electronic sensors, and specialized end-of-arm tools that control and manipulate the items being run through the conveyor system. The company employs about twenty people and has average revenues of twelve million dollars. Diligentiam has worked with the company for the past six years, helping it to qualify to obtain millions of dollars in state and federal R&D credits.

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### *R&D RESEARCH ANALYSIS*

All of the projects ABC works on require it to design a conveyor and/or automation system from the ground up. ABC uses the engineering expertise of various staff members to design a system that meets a client's vision and production rate requirements. Within this process, the company's engineers will develop and test a number of alternative design concepts both theoretically and physically. On each project, engineers test alternative PLC programs, robotic movement and code, end-of-arm tooling, etc. to attempt to develop a final deliverable.

ABC uses its production facility to test scaled-down systems and conduct FAT. Diligentiam has found that all of the engineering and testing activities undertaken before the final system is up and running constitute qualified research. Since 2012, Diligentiam has captured expenses for mechanical engineers, controls engineers, sales engineers, and subcontractors participating in the engineering process and has allocated them towards the credit.



## Qualified Research Activities Performed

- Developing alternative layouts and designs during pre-bid phase
- Developing alternative designs in CAD
- Performing engineering calculations
- Developing and fabricating
- Mechanical system components
- Developing and testing alternatives
- PLC programs to control sensors
- Experimenting with alternative robotic arm movements and robotics code
- Performing system testing on site
- Performing on-site FAT and redesigning components
- Overcoming uncertainties when commissioning system in the field



## R&D Tax Benefit

Tax Year 2016:	\$284,558
Tax Year 2015:	\$259,460
Tax Year 2014:	\$208,380
Tax Year 2013:	\$165,277
Tax Years 2009-2012:	\$311,435

**Total Federal Credits to 2016:  
\$1,230,110**

**Remaining years eligible for R&D:  
12 years**



## Diligentiam

It takes diligence to make a business succeed. Every day, you work hard to provide your clients with the highest quality of service. You consistently provide sound results based on an infrastructure of research and analysis. You are diligent.

Diligentiam is your partner in business success. As a premier provider of business services, we go above and beyond due diligence to ensure that all your business decisions are thoroughly researched and analyzed. Our diverse services will ensure that you have the information necessary to get results consistently.

Whether we are conducting due diligence studies, reviewing financial reports to make tax recommendations, or incorporating new technologies to maximize your company procedures, we complete our tasks quickly and efficiently. Our services are designed to operate with minimal disruption to your normal business routines. We work with you, as partners, to ensure you have every available tool to succeed.



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