

# Research & Development

## Tax Credit Case Study: Automation Company

### Overview:

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. Alternate Tax Solutions (ATS) 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.

### R&D Research Analysis and Credit Findings:

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. Alternate Tax Solutions has found that all of the engineering and testing activities undertaken before the final system is up and running constitute qualified research. Since 2012, Alternate Tax Solutions 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 Years 2009-2012:	\$311,435

**Total Federal Credits to 2016:**

**\$1,230,110**



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