

## R&D Tax Credit: Robotics, manufacturing, potential to add 7.9% Back to ROI

In today's manufacturing environment robotics, automation, and autonomy are technologies that are being heavily integrated into operations. The efficiencies gained, flexibility in performance, and consistency in operation while providing a cost savings, robotics has become more ubiquitous throughout the plant.

Typically, a robot can range from \$25,000 to \$400,000 depending on the type of movement, application, architecture, and quality of the brand. From there, the amount of additional spend that goes into the project from foundation, electrical, and expanding layout can become significant. On top of that, manufacturing will hire robotics, software, or electrical engineers to install, configure, and design the procedures for the robotics to function properly.

For example, typically when a new part or process is implemented into an existing robotic manufacturing process there is time from engineering, operations, quality/testing that need to run test parts and evaluate that those meet specification. Also, typically when a new robotics application is installed, new tooling or fixturing is tested and built to allow for the increase in capacity or performance.

With these large projects, companies can recoup some of this value in immediate payback through the ***Research and Development Tax Credit (R&D)***. ***R&D*** is a federal incentive for companies to capture a tax credit for design, development, process improvement, application engineering, and even robotics projects. Here is a short list of the types of costs within robotics that could qualify.

- **Robotics costs that could potentially qualifying**
  - Alpha robot used for initial evaluation
  - Software developers time to build middle ware connecting to existing applications
  - Prototype parts run through the robot to test quality or performance enhancements
  - Engineering used to optimize movement procedures
  - Tooling/Fixturing built to increase capacity and extend reliability
  - Outside contractors utilized to design improvement configurations
  - Hourly operation labor to test or evaluate new parts or manufacturing consistency

The list and example above can be expanded and depending on the application, the costs can get quite significant. On average, if a company has qualifying costs from their robotics projects, they can **capture approximately 7.9%** of the expenses back from the R&D.

With the high value of ***R&D*** and the expensive development costs of implementing robotics, manufacturers should look to build a better ROI on these projects by targeting the R&D credit as way to fund that payback sooner.