

R&D Tax Credit for Manufacturing, Software Development, Biotechnology and Pharmaceuticals

The Big 3 Comes in All Shapes & Sizes

More than [80% of startups](#)¹ and small-to-midsize businesses are not taking [tax credits](#)² they are eligible to claim- either because they lack awareness of their qualifications or don't think getting them is easy- leaving money on the table. But when it comes to R&D amongst manufacturers, software developers or biotech/pharmaceutical companies, it's not the size of their business but the type, scale and vision of their innovations- and the help they receive - that counts when it comes to capturing credits.

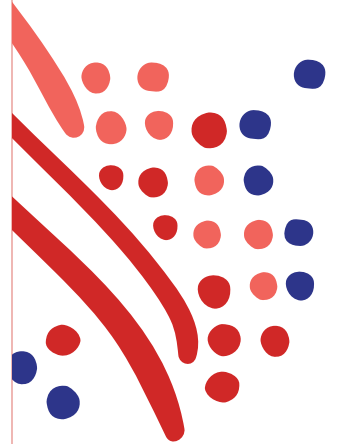
Research shows that for both big and [new companies](#)³, investing in R&D is a good strategy: Higher R&D productivity yields higher profits, growth, and market value per dollar of R&D. In addition, a [qualified small business](#)⁴ can claim (R&D) tax credits for research expenses that increase over time. If it doesn't have an income tax liability, this credit can be used to offset the FICA portion of their payroll taxes up to \$250,000, allowing them to claim tax credits for research expenses — even if they aren't yet generating revenue.

In lieu of incentivizing a specific industry, business type, or size, the R&D tax credit is designed to reward taxpayers undertaking eligible activities. As a result, tax credits experts often describe the R&D incentive as an activities-based credit. In other words, any business in any industry can qualify for credit on its eligible activities- and that requires evaluation of numerous criteria.



To qualify for the credit, spending must meet several criteria. Taxpayers must:

- Show that research spending is based in "hard sciences", like engineering, computer science, chemistry, etc.
- Demonstrate their research is related to the development of a new or improved component, without which work can not be completed as intended.
- Prove the project's goal is to "resolve technological uncertainty" and establish a process to do so.



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While additional qualifications apply to software development, several types of research are excluded: social science research, research conducted outside the U.S., research conducted after commercial production has begun, research on management functions or techniques, and market research, among others.

However, considering that approximately \$15 billion - \$20 billion in credits are claimed annually, certain industries — which by their nature are driven by hard science R&D— rise to the top of the claimant pile.

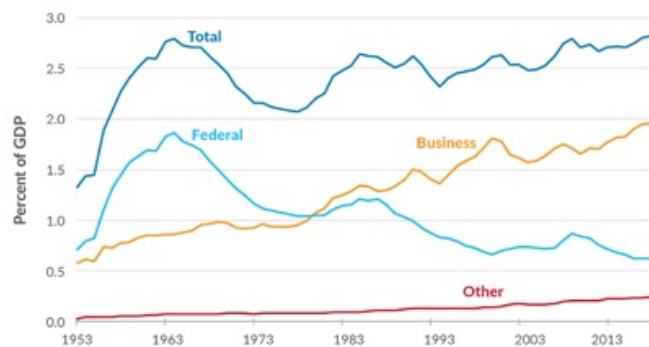
- Businesses engaging in manufacturing, software development or biological or pharmaceutical sciences generate a significant portion of the annual R&D tax credits claimed.
- Demonstrate their research is related to the development of a new or improved component, without which work can not be completed as intended.
- Prove the project's goal is to "resolve technological uncertainty" and establish a process to do so.

R&D Big 3 Tax Credits in Focus

Since 1981, the application of the federal Research & Development (R&D) Tax Credit has coincided with an exponential expansion of private investment in R&D, fueling the argument that the incentive has helped spur the growth of the Big 3.

Business Investment in R&D Has Risen, While Federal R&D Has Fallen

Percent of GDP devoted to R&D by funding source, 1953-2018



Note: "Other" includes research and development done by state and local governments, higher education, and other nonprofits.
Source: National Center for Science and Engineering Statistics, National Science Foundation, National Patterns of R&D Resources, Jan. 8, 2020.

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Indeed, over the last fifty years, the R&D credit has become a bastion of corporate American tax policy, with pharmaceutical, technology and manufacturing corporations making substantial annual claims.

R&D Tax Credit for Manufacturing

Manufacturing innovation is fostered by research and development of technologies that are aimed at increasing the competitive capability of manufacturing concerns. Broadly speaking, manufacturing-related R&D encompasses improvements in existing methods or processes, or wholly new processes, machines or systems. In lieu of incentivizing a specific industry, business type, or size, the R&D tax credit is designed to reward taxpayers undertaking eligible activities. As a result, tax credits experts often describe the R&D incentive as an activities-based credit. In other words, any business in any industry can qualify for credit on its eligible activities- and that requires evaluation of numerous criteria.

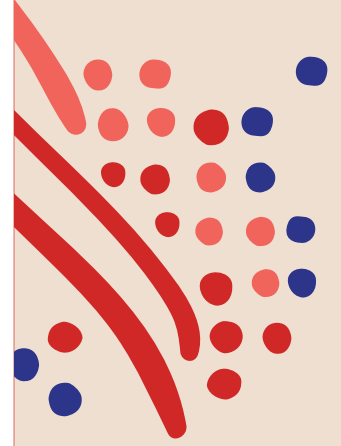
Four main areas include:

- 1 Unit process level technologies that create or improve manufacturing processes
- 2 Machine level technologies that create or improve manufacturing equipment
- 3 Systems level technologies for innovation in the manufacturing enterprise
- 4 Environment or societal level technologies that improve workforce abilities and manufacturing competitiveness

Historically, manufacturers have occupied the top spot among R&D tax credit claimants. As recently as 2014, the manufacturing sector locked down nearly 60% of the almost \$13 billion in tax savings taken on corporate tax returns. And rightly so: producing a finished product extracted from raw materials embodies the type of experimental process the federal government seeks to incentivize through the R&D tax credit.

In addition, cities are getting in the game too: Oklahoma City's groundbreaking Strategic Investment Program (SIP) is a discretionary incentive fund designed to help companies that are looking to expand or locate their operations in Oklahoma City, making it even easier to choose pro-innovation environments for expansion or new-to-market ventures.

- [Manufacturing](#)⁵ makes for 8.5% of the total workforce, and [12% of our economic output](#)⁶
- Small business makes of almost half ([46% of 11.75 million](#))⁷ of all manufacturing jobs, representing nearly 700k businesses
- Significantly, credits for this sector spans more than the systematic trial and error necessary to get a product "right" and ready for commercialization.
- Manufacturers, whether producing a machine part, a skin cream or a new electronic device, often have to adapt their process to deal with safety regulations, financial constraints, and/or, as in the current environment, supply chain issues.
- These adaptations might drive increased expenditures beyond the primary aspects of product design and development that may also qualify for R&D tax credit savings.



EXAMPLES:



Aeronautical Manufacturing

\$6M in annual revenue
36 Employees
\$736K in credits over
4 years income tax offset



Racing Oil Manufacturer

\$16M in annual revenue
78 Employees
\$410K in credits over 4 years



Auto Parts Manufacturer

Pre-Revenue Startup
40 Employees
\$360K in credits over
1 year State Credit Only
(No Federal Credit Claimed)



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R&D Tax Credit for Software Development

Since the turn of the century, software development has emerged as a watchword of business growth in the US. Not only is software publication an industry unto itself, but it also underpins significant revenue expansion in more traditional industries like financial services, marketing, and consumer services. Indeed, many, if not most, industries are looking to leverage software applications and the digital environment to drive business volume and to serve customers in new ways.

Ultimately, because intensive and systematic trial and error goes into the coding of software products, platforms and applications, software development dovetails effectively with the statutory requirements of the R&D tax credit.

If R&D is related to internal-use software for a business, it must:

- Be innovative.
- Result in an economically significant reduction in cost or improvement in speed.
- Involve economic risk to develop.
- Not be currently commercially available.

One key takeaway of current economic research⁸ has been the recognition that research and development (R&D) investments are becoming essential to a nation's progress.

"However", As Vijay Govindarajan, Coxe Distinguished Professor at Dartmouth College's Tuck School of Business and faculty partner at the Silicon Valley incubator Mach 49 has written 9 "Accounting textbooks, academic literature, national budget plans, and management books continue to consider R&D as a discretionary expense, defined as cost that is not tied to operations and can be curtailed or even eliminated in the short run without impacting current revenues."

When his research team "measured the presence of incubation and innovation personnel within each firm (such as senior leadership and formal teams tasked with innovation and incubation) and the quantity of the firm's public communications about innovation...(they) found that the level of these activities could turn the relationship between R&D and market performance from a slightly negative to a significantly positive one."

Therefore

- Startups leveraging software development to create a product or platform benefit significantly from the option to elect to claim the R&D tax credit against the employer portion of payroll withholding taxes.
- This election allows electing businesses not paying income tax to realize immediate cash savings from their R&D credits by offsetting certain payroll withholding taxes.



EXAMPLES:



Video Game Developer

\$1M in annual revenue
20 Employees
\$141K in credits over 3 years
Payroll withholding and
income tax offset



Real Estate Management Platform

\$3.3M in annual revenue
25 Employees
\$360K in credits over 4 years
income tax offset



Telehealth / Patient Service Startup

\$2.3M in annual revenue
20 Employees
\$70K in credits in second year of
operation Payroll withholding offset



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R&D Tax Credit for Biotechnology / Pharmaceuticals

Something about the iconic imagery of white lab coats, test tubes and “Guinea pigs” which symbolizes the biotechnology and pharmaceutical fields simply scream R&D. As [reported](#) 10 “Today, humans born in 2002 can expect a life expectancy of 77. Humanity is moving forward, becoming stronger, better, healthier and smarter...Much of this is fueled...by biotechnology and the discoveries and advances therein. The scientific know-how and experimentation that underlie the development of new drugs, therapies, medical devices and equipment drive significant R&D tax credit savings for businesses in these industries.

Moreover, as these businesses frequently work for several years before releasing a product to market and earning revenues, the industry is a prime candidate for the updated tax laws allowing an election to use the traditional R&D income tax credit against payroll withholding. High wages and significant laboratory supply costs frequently yield strong R&D tax credits for businesses developing drugs and therapies. In addition, regulatory and safety requirements that require repetitive testing and independent third-party verification can increase credit returns.

The maximum amount you can earn back through this credit is \$250,000 each quarter on an eligible investment. The credit returns 15% for a company that employs ten or more people and 20% for one that employs less than 10. Businesses are eligible for the credit during the first three taxable years, and are retroactively available if they have not been claimed during that time period.

In addition, tax credits available to biotech research are not limited to federal recovery law, as there are many state tax credits, grants and programs that also may apply. For example, states like Maryland offer the Biotechnology Investment Incentive Tax Credit or BIITC, and cities like Baltimore have specific incentives which provide an income tax credit equal to 50 percent of an eligible investment in a qualified Maryland biotech company. The state of New York has what’s called the New York State Life Sciences Research and Development Tax Credit Program for companies that devote most of their efforts to researching anti-aging, longevity and stem cell use.

- Small and medium-sized companies generate greater than two-thirds of the clinical candidates in the pharma and biotech industry drug pipeline.
- Small and medium-sized drug companies are the growth engine of the pharmaceutical industry but lack easy access to service providers with the knowledge and capabilities they need to take their promising candidates from the clinic to the market.
- These innovative firms desire to partner with fully integrated science and technology CDMOs — and require the support and guidance from R&D tax credits specialists utilizing smart accounting tech — to reach their full potential.

EXAMPLES:



Molecular Therapies

Pre-Revenue Startup

10 Employees

\$240K in credits over 1 year

Payroll withholding offset



OTC Drug Development

\$500k in annual revenue

36 Employees

\$250K in credit for 1 year

Payroll withholding offset



Medical Devices

\$18M in annual revenue

72 Employees

\$95K in credit for 1 year

Income tax offset



Conclusion

Beyond federal tax credit programs, states such as Arizona have additional tax credit support for qualifying activities such as website creation, CNC programming, creation or improvement of tools, molds, jigs, manufacturing planning and engineering, including lean products. Designed to incentivize and maximize capitalization, and attract businesses to R&D-focused states and cities, these R&D credits help to grow your business AND grow the economy, ensuring new ideas and opportunities are brought to market, strengthening our position as the global leader of R&D.

In the end, the policy tool that is the R&D tax credit provides important fuel for the US economy, especially amongst the Big 3. No matter your size, whether start-up or established large business, there's a path you can take to successfully capture credits for which you are eligible.

In other words, to the innovative goes the spoils.

ADP's R&D tax credit services team has deep-domain knowledge to help your clients determine eligibility for research and development (R&D) tax credits, including documentation of qualifying activities and expenses to support compliance.

To learn more about the Big 3 industries and how to navigate their complexities when it comes to R&D tax credits, visit our R&D Info Page for Accountants.

Learn more

¹<https://news.bloombergtax.com/daily-tax-report/r-d-tax-credits-americas-best-incentive-program-for-smbs-and-startups>

²<https://www.uschamber.com/co/run/finance/small-business-tax-credits>

³<https://news.mit.edu/2020/state-rd-tax-credits-growth-new-businesses-0612>

⁴<https://www.businessnewsdaily.com/2683-research-development-tax-credits.html>

⁵<https://www.ibisworld.com/industry-statistics/market-size/manufacturing-united-states/>

⁶<https://www.nam.org/state-manufacturing-data/2019-united-states-manufacturing-facts/>

⁷<https://cdn.advocacy.sba.gov/wp-content/uploads/2020/06/04144224/2020-Small-Business-Economic-Profile-US.pdf>

⁸<https://www.cnn.com/2018/10/08/nobel-prize-for-economics-goes-to-william-nordhaus-and-paul-romer.html>

⁹https://hbr.org/2019/01/its-time-to-stop-treating-rd-as-a-discretionary-expenditure?ab=at_art_art_1x4_s02

¹⁰<https://www.forbes.com/sites/forbesfinancecouncil/2022/02/07/how-tax-incentives-can-set-america-to-win-in-the-longevity-and-biotech-research-space/?sh=7b13a2ab37a3>

