

pilot

# The R&D Tax Credit: A Comprehensive Guide



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# What It Is

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**Of all the credits the IRS offers to SMBs, the R&D Tax Credit is one of the most significant.**

Companies with qualifying expenses can receive up to \$250,000 to offset their payroll taxes, or even more than that if they have income tax liabilities.

The R&D Credit, however, is also one of the most complicated credits to claim and document, and one of the most likely to be audited for. Because of this, many qualified businesses don't claim it, even though they stand to gain considerable tax savings.

In this book, we'll take an in-depth look at what the R&D Credit is, the qualifications around it, and how to successfully make your claim.



Also called the **Research & Experimentation** (R&E) credit, the R&D Credit is intended to promote scientific advancement in the United States. It does this by allowing businesses to claim a tax credit for qualified research expenses (QREs).

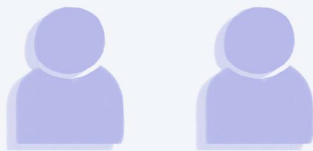
The R&D credit was initially introduced in 1981 as part of the Economic Recovery Tax Act, to incentivize innovation amidst worries of declining US competitiveness. While it was originally meant to be temporary, the credit was renewed 16 times by Congress before the 2015 Protecting Americans from Tax Hikes (PATH) Act made it a permanent part of the tax code. By some estimates, the credit saves businesses around \$10 billion in taxes each year.

A US Treasury analysis explains the US government's rationale for offering the credit: *“Government support of research and development (R&D) may be appropriate when the social benefits associated with research activities exceed the private benefits. In the absence of such intervention, a market economy would tend to underinvest in research that leads to new ideas, discoveries and knowledge that are helpful in supporting a growing economy.”*

In other words, by making it more profitable to pursue new research and technology, the tax credit is intended to help ensure that more businesses focus on R&D - thus benefiting the economy as a whole.

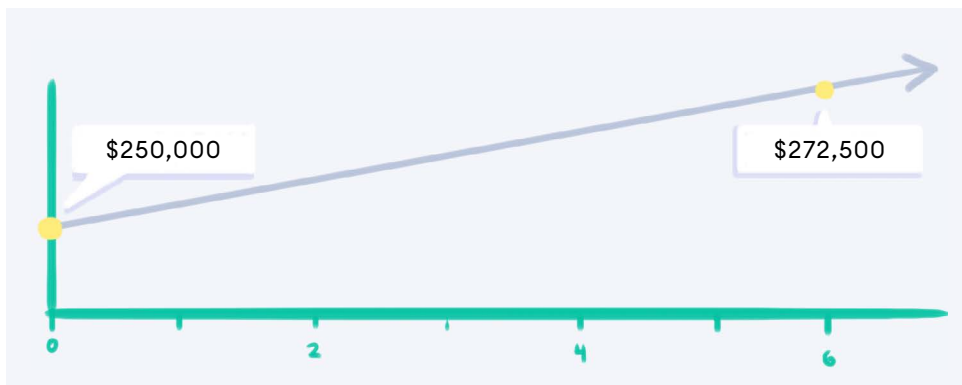
# What could you do with \$250,000?

At a monthly burn rate of \$30,000, increase runway by 8 months



At an employee cost of \$125,000, grow your team by two people.

At a monthly interest rate of 1.5%, gain an additional \$22,500 over six months





# How It Works

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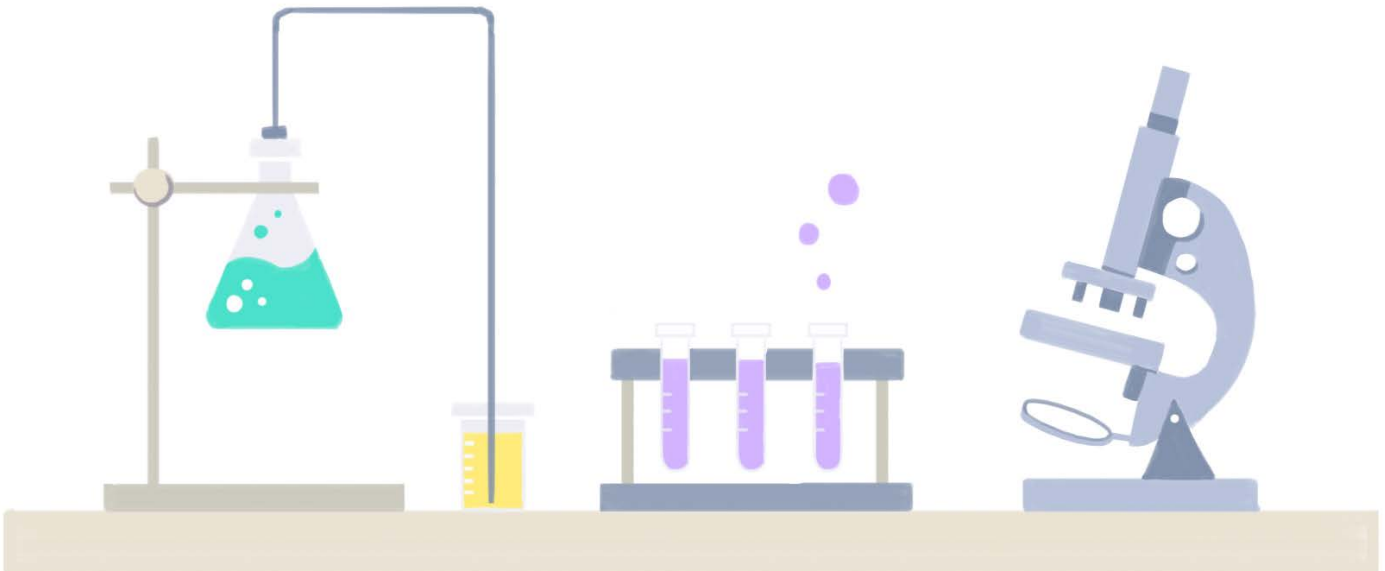
Companies can claim the credit for any qualified research expenses they incur. There's actually two parts of "qualified research expense" to unpack here: what research is considered "qualified," and what associated expenses are eligible to claim.

First, let's examine the research. In order for research to be considered qualified by the IRS, it needs to:

- Solve for an uncertainty
- Involve a hard science
- Develop something new, related to your business
- Involve a process of experimentation

There are also a number of potential research areas that the law specifically calls out as not qualifying. Anything from this list cannot be used to claim the R&D credit:

- Research in the social sciences, arts, or humanities
- Research conducted outside the US
- Land or land improvements
- Research you're being paid to do (funds, grants, etc)
- Reverse engineering
- Surveys and marketing research
- Research done after you've started commercial production
- Adapting or duplicating existing components
- Software intended for internal use only





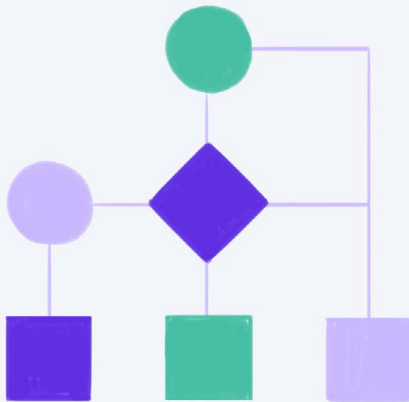
If your company's work fits the above criteria for qualified research activity, then you can claim the credit for certain expenses that you incurred while doing that research. The IRS considers the following to be qualified research expenses for the purpose of the tax credit:

- **W2 taxable wages.** You can claim wages for employees carrying out your research and their first-level supervisors.
- **A portion of contractor research and expenses.** Note that your company needs to retain substantial rights to the results.
- **Research payments.** You can claim the cost of basic research payments to reputable educational or scientific research organizations.
- **Research supplies.** Land and land improvements are explicitly excluded, but computers and cloud servers can qualify.

# Qualified Research: Examples

**Company A** is working to develop improved hardware technology for digital video, with engineering teams in San Francisco and Germany. The engineers build prototypes of their new hardware, and also develop algorithms to run on it. In the process of creating their algorithm, they leveraged a major university's proprietary research, which they paid a license to use. Can Company A claim the credit?

- **Yes**, they can claim the credit for the salaries of their US engineers, for the component materials used in developing their prototypes, and for the license to the university to use their research.
- They **can't** claim their German engineers' salaries, or materials used by the German team to conduct research.



**Company B** is working to create an electric car that can drive from Los Angeles to New York on a single charge. They employ over 200 engineers directly, as well as several dozen contractors working on battery technology.

Company B has created and tested multiple prototypes, built from specialized components. A large car manufacturer is contracting Company B to develop this technology, in hopes of selling the improved electric cars. Can Company B claim the credit?

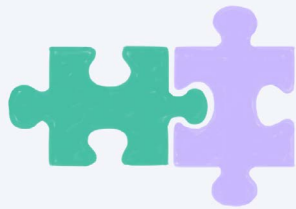
- **No**, they cannot claim the credit. Even though Company B is doing significant research and development for the electric car, because they are being paid for that work by the car manufacturer, they can't claim the tax credit. Research funded by any grant, contract, or other entity (including government) is specifically excluded.
- However, the car manufacturer might be able to claim some of the cost of contracting Company B to improve its electric cars, since it will own the research once it's completed.
- If Company B had funded the research themselves, and later sold the rights to the car manufacturer, then they would have been able to claim the credit, since they bore the financial and technical risks and retained the rights to the technology.

# Qualified Research: Examples

**Company C** is working with a prominent university on a research study of student mental health and stress management. Company C employs numerous interviewers, psychologists, and data scientists to gather and evaluate responses and identify statistical patterns.

The goal of the project is to allow Company C to eventually develop software to help identify students who may be experiencing unhealthy stress so that the university can connect them with help before they reach a crisis. The university is a partner, but is not compensating Company C for their work. Can Company C claim the credit?

- **No**, they cannot claim the credit. Because their work is a social science study rather than hard science, Company C is not eligible to claim the credit for their work.
- However, when Company C later begins developing their software, they may be able to claim the credit for expenses related to that work.



**Company D** was founded to research potential gene therapies to treat chronic health conditions, which they will then license for production. Company D employs a team of 20 full-time researchers at their Maryland office, and also works with several US-based contract labs for testing. The company is venture-funded, and their largest investor is a pharmaceutical company that hopes to someday leverage their discoveries. Can Company D claim the credit?

- **Yes**, they can. Biotechnology is included as a qualified research area, and the company conducts their work in the US. They could claim their researchers' salaries, the materials they use for testing, and some of the money they pay to the contract labs for testing services.
- Although the pharmaceutical company is a major investor, they are not paying Company D to do specific work for them. Company D, not the investors, will be the legal owner of the research results. This is different from the example with Company B - in that example, the research would be owned by the car manufacturer, and Company B was being directly paid to carry it out.



# How to Claim It

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The first step is to review all of your R&D projects, and identify which ones would count as “qualified research” based on the criteria listed above. From there, work to collect and identify all of the qualifying expenses related to those projects.

If you haven’t been keeping up with your bookkeeping, this part may be difficult. For reasons we’ll discuss later, it’s extremely inadvisable to claim the R&D credit without comprehensive, well-supported documentation of what you spent and why. If you aren’t currently able to get that information from your books, take steps to do the catch-up work before you move forward.

Once you have all of your qualified expenses collected and calculated, you’ll need to fill out the right forms. The exact forms you need will vary, based on your situation.

If you have less than 5 years in gross receipts and less than \$5M in aggregate gross receipts, then you meet the criteria for a “small business.” You can take up to \$250,000 of the credit against your payroll taxes, which are the employer-paid portion of social security taxes. If you have income tax liabilities, then you can take more than \$250,000 in credit, and claim any amount against your income taxes.

In both situations, you’ll need to fill out IRS Form 6765. If you’re claiming the credit against your payroll taxes, you’ll also need to complete Form 8974, and attach it to Form 941.

If you have 5 years or more in gross receipts or more than \$5M in aggregate gross receipts, then you are not considered a small business. You’ll claim the credit against your income taxes, and the \$250,000 limit does not apply to you. You’ll only need to fill out Form 6765.

# The Forms

## 6765

This is the form you use to actually claim the credit. You'll enter in the amounts for your qualified expenses, and also indicate on this form if you intend to use the credit against payroll tax.

The research credit is computed by one of two methods: the regular credit method, or the alternative simplified credit (ASC) method. The regular credit method results in a credit equal to 20 percent of the excess of your current-year qualified research expenses over a base-period amount. The base-period amount is calculated through an analysis of prior-year gross receipts and qualified research expenditures in a fixed base period. The ASC is an alternative method resulting in a 14 percent credit of current-year research expenditures exceeding 50 percent of a taxpayer's average qualified research expenditures incurred over the three prior years.

## 8974

If you're planning to claim the credit against your payroll taxes as a qualified small business, you'll fill out this form and attach it to 941. This form includes information from your income tax returns, and determines how much of your credit you can apply to payroll tax for that period.

## 941

This is the form that reports payroll taxes withheld from employee paychecks, like social security and Medicare. If you're claiming the credit against your payroll taxes, then you'll enter information here from your 8974, and send both forms to the IRS.

## Form 6765

### Section B—Alternative Simplified Credit. Skip this section if you are completing Section A.

<b>18</b>	Certain amounts paid or incurred to energy consortia (see the line 1 instructions)		<b>18</b>	0
<b>19</b>	Basic research payments to qualified organizations (see the line 2 instructions)	<b>19</b>	5000	
<b>20</b>	Qualified organization base period amount (see the line 3 instructions)	<b>20</b>	28900	
<b>21</b>	Subtract line 20 from line 19. If zero or less, enter -0-		<b>21</b>	0
<b>22</b>	Add lines 18 and 21		<b>22</b>	0
<b>23</b>	Multiply line 22 by 20% (0.20)		<b>23</b>	0
<b>24</b>	Wages for qualified services (do not include wages used in figuring the work opportunity credit)	<b>24</b>	2740000	
<b>25</b>	Cost of supplies	<b>25</b>	10000	
<b>26</b>	Rental or lease costs of computers (see the line 7 instructions)	<b>26</b>	80000	
<b>27</b>	Enter the applicable percentage of contract research expenses. See the line 8 instructions	<b>27</b>	60000	
<b>28</b>	Total qualified research expenses. Add lines 24 through 27	<b>28</b>	2890000	
<b>29</b>	Enter your total qualified research expenses for the prior 3 tax years. If you had no qualified research expenses in any one of those years, skip lines 30 and 31	<b>29</b>	0	
<b>30</b>	Divide line 29 by 6.0	<b>30</b>		
<b>31</b>	Subtract line 30 from line 28. If zero or less, enter -0-	<b>31</b>		
<b>32</b>	Multiply line 31 by 14% (0.14). If you skipped lines 30 and 31, multiply line 28 by 6% (0.06)	<b>32</b>	173400	
<b>33</b>	Add lines 23 and 32	<b>33</b>	173400	
<b>34</b>	Are you electing the reduced credit under section 280C? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If "Yes," multiply line 33 by 79% (0.79). If "No," enter the amount from line 33 and see the line 17 instructions for the statement that must be attached. Members of controlled groups or businesses under common control, see instructions for the statement that must be attached	<b>34</b>	173400	

## Example

Company X is working on a software platform to enable faster, more secure mobile financial transactions. Company X employs 20 engineers making \$120,000 each and two first-level engineering managers, making \$160,000 and \$180,000 each. This is a total of \$2,740,000 in eligible wages (Line 24).

They spent \$10,000 on equipment, software and services to help build their software (Line 25).

They spent \$80,000 on AWS hosting services (Line 26).

They employ a contractor, making \$100,000. Because their contractor is an individual, 60% of that is eligible (Line 27).

Company X was founded this year, and does not have prior research expenses (Line 29).

The base amount is 1% of their total qualified expenses (Line 20). The total for all qualified expenses is \$2,890,000 (Line 28).

From these expenses, Company X can expect to get \$173,400 back through the R&D credit (Line 34).



# Pitfalls to Avoid

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As we've seen, the R&D tax credit is complex, and there are plenty of areas where it's easy to make a mistake. In this section, we'll look at a few of the most common errors that businesses make in regards to the credit.

### **Claiming research that doesn't qualify.**

This one may seem obvious, but as we saw in the previous section, there are a lot of exceptions, and things can easily get murky. Further complicating the matter, some of the guidelines can seem subjective - was there really uncertainty in the project? Does work count as an adaptation if you think there could someday be a wider market?

Murky or not, non-qualified research is one of the top issues the IRS will look for in an audit. If you have any doubts or questions about what you may or may not be able to claim, consult a professional with R&D tax credit experience.

**“...non-qualified research is one of the top issues the IRS will look for in an audit.”**

### **Not documenting as you go.**

In an audit, the IRS will want to see documentation for every expense you claim and what it was related to. They also express a preference for “contemporaneous records.” In other words, the IRS prefers that you document expenses as they happen, rather than trying to reconstruct everything after the fact.

If you haven't been completely conscientious about this, it's not a disaster - the IRS does state that some estimation is acceptable. However, it also notes that estimates need to “have a basis in facts,” so you'll need a solid explanation of how you came up with your numbers.

Overall it will be less painful, and more credible, to set up a process for documenting research expenses and use it from the start. This is a generally good idea, beyond just preparing for a tax credit - no one ever regretted being proactive in their bookkeeping.

### **Not being specific.**

There's no subsidy for hobby projects. The IRS wants to hear concrete reasons that your research will improve your business.

A common mistake here is being too general, either on the business aspect of your research or in how your expenses relate to it. To pass the business-component test in an audit, you need to have a clear case for which parts of your business will benefit from your research, and how they will benefit.

For your expenses, each item needs to have a clear, documented connection to how it supports your research activities. Even if your research is fully qualified, the IRS will be skeptical of expenses that don't have an obvious relation to it.

### **Not working with a responsible partner.**

The IRS includes the R&D tax credit on its Dirty Dozen list of frequent scams. In the scam, businesses incorrectly claim the credit for expenses that don't actually qualify - often on the advice of sloppy or unscrupulous tax preparers.

Even for completely legitimate claims, putting together the documentation that would be needed in an audit is a lot of work. If an audit does happen, defending your claims to the IRS is even more work.

Not only is there a significant time and effort investment required to get it right, there are considerable risks in *not* getting it right. If you can't back up your claim in an audit, you could end up with tax penalties instead of credits.

**“If you can't back up your claim in an audit, you could end up with tax penalties instead of credits.”**



# Preparing for an Audit

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## Preparing for an Audit

The R&D tax credit can save your company a substantial amount of money, but there is one caveat: you are more likely to get audited.

According to the IRS, the most common issues with R&D credit claims are:

- Research that is not qualified
- Expenses without a proven connection to a qualified activity

Unfortunately, because the R&D credit is popular with scammers, the IRS pays extra attention to returns that claim it. Claiming the credit is not a guarantee you'll get audited, but it does raise the likelihood. Roughly 30% of R&D claims are audited each year - and if you do get audited, you're more likely to get audited again in following years.

No one wants to get audited, but it's not a catastrophe. The key to a smooth, successful process is to be prepared, before you even file.

## What the IRS Wants to See

If you're being audited about an R&D credit filing, the IRS will be mainly interested in seeing financial and technical documentation for everything referenced in your claim. This includes:

- The amount of each expense
- When the expense took place
- Why you incurred the expense
- How the expense relates to your research

An important element in all of this is clarity. If the IRS is auditing you, they're looking to get a better idea of how your research qualifies you for the credit. The best thing you can do to prepare is to build a clear, concise, well-supported case for why your claim is legitimate.

**“Roughly 30% of R&D claims are audited each year..”**



## How does the IRS determine if your research is qualified?

Your auditor will apply what's known as the four-point test to determine if your research meets the qualification criteria we discussed in the first section.

### 1 Does your research solve for an uncertainty?

If the information you need to improve your product or design isn't available, then you have uncertainty. An example might be if you were trying to design an extra-thin smartwatch with the same processing power as a much larger device. Creating your product might require researching a new hardware architecture to achieve your goal, because your current architecture won't work.

By contrast, if something does exist but you simply don't have it, that does not qualify. The IRS cites an example of needing a new piece of equipment for a new manufacturing process. In our above example, this would be if the technology already existed to create your watch, and you simply needed to upgrade your machinery to handle the smaller chipset. That isn't solving uncertainty - that's shopping.

### 2 Does your research involve a hard science?

Described as "technological in nature," the tax code specifies that qualifying research must "fundamentally [rely] on principles of the physical or biological sciences, engineering, or computer science." This is fairly straightforward - if your research doesn't fall into one of those disciplines, then it probably doesn't qualify.

### 3 Does your research develop something new, related to your business?

As we noted earlier, there isn't a credit for hobby research. The purpose of your research needs to be creating or improving a business component, which the IRS defines as "any product, process, computer software, technique, formula, or invention which is to be held for sale, lease, or license, or used by the taxpayer in a trade or business of the taxpayer."

You also need to be specific here. "This will help my business" isn't enough for the IRS - you need to be able to explain which business component, why the research is needed for it, and draw a straight line between the two.

#### 4 Does your research involve a process of experimentation?

This goes back to the requirement on uncertainty. To count as “research,” you need to be doing experiments to discover a solution.

According to the IRS, “a process of experimentation is a process designed to evaluate one or more alternatives to achieve a result where the capability or the method of achieving that result, or the appropriate design of that result, is uncertain as of the beginning of the taxpayer’s research activities.”

In other words, to be considered a process of experimentation, your process must:

- Identify the uncertainty
- Identify one or more alternatives
- Identify and conduct a process of evaluating alternatives

If your research passes the four-point test, the IRS will then examine your documentation to make sure that none of the exclusions apply. As we saw in the first section, the exclusion list is considerable. This is an area where applicants can trip up, so it’s worth going over in detail.



# Exclusions



## Commercial Production.

Research expenses are only qualified while the product is in development - i.e., not ready to be produced and sold. Once you enter commercial production, any subsequent expenses are not eligible.

According to the IRS, “a business component is considered ready for commercial production when it is developed to the point where it is ready for use or meets the basic functional and economic requirements of the taxpayer.”

**Example:** Business A manufactures mobile phones. They have just finished testing, prototyping, and finalizing a new model, and a small batch of preordered launch phones is in progress at their factory partner. To ramp up wider production, Business A will need to invest in new production equipment at other factories.

In this case, Business A could claim expenses for developing and testing the new phone design. However, since Business A is currently creating copies of the phone to sell, the subsequent expenses to ramp up production are not eligible.

## Adaptation.

While improving an existing business component is a qualified activity, adapting an existing component for a particular client is not.

**Example:** Business B sells business intelligence software. A large enterprise agrees to buy the software, but only if Business B modifies its existing capabilities to integrate with one of the client’s proprietary systems. Creating this new capability requires a lot of engineering hours, and solving for multiple software problems. Since the client’s system is proprietary, this work does not have value outside that single client.

In this situation, the expenses for creating the integration are not qualified, since Business B is only adapting its product for a particular buyer’s taste.

If instead of a proprietary system, the buyer had wanted an integration with another commonly-used software platform - something that may have added to the overall value of Business B’s product - then the expenses might have been qualified.

### **Duplication.**

Reproducing something that already exists, either by reverse-engineering or following blueprints, does not count as qualified research.

**Example:** Business C licenses the technical specifications for a computer hardware board, then invests a significant amount of money manufacturing the boards themselves.

In this situation, Business C does not qualify to claim the R&D credit for the costs of licensing the specifications and putting them into production. Business C did not do any research or experimentation itself. Another way of looking at this exclusion is to ask, could this research have been done using materials in the public domain?

### **Surveys, Studies, & Management Functions.**

Research related to management, like financial analysis, employee training programs, or management-based production process changes, is not qualified. The IRS gives an example of rearranging work stations at an assembly line as a management-based process change, which is not eligible to claim for the credit.

**Example:** Business D manufactures steel components for construction. One of their new designs requires a change to the current processes, and they must train their staff for a new process.

While the expenses involved in creating their new design might qualify for the credit, training the staff on how to produce the new designs is not an eligible expense.

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### **Internal-Use Software.**

Developing computer software is usually included as qualified research, with this one big exception. If you develop new software to use inside your own company, with no commercial intentions, then it probably doesn't qualify for the R&D credit.

**Example:** Business E hasn't been able to find an inventory-tracking system that meets their needs, so they build one themselves for their team to use.

This does not qualify, since the results only benefit Business E. However, if Business E developed the software while planning to also add it to their product offerings, they might be able to claim the credit.

\*This exclusion can get blurry - if you have any doubts about your potential claims in this area, it's best to talk to a professional.



## Foreign Research.

Only research carried out in the US and Puerto Rico can be claimed for the credit. Even if an American company is paying for it, research done in other countries doesn't count. If some of your research activities took place in the US and others outside it, only the US-related expenses are qualified.

**Example:** Business F contracts with a research lab at a university in Japan to develop a new polymer to use in their manufacturing.

This does not qualify, since the work is done outside the US. If Business F also has a US research team that collaborates with the Japanese team, expenses related to the US team's work might be qualified.

## Funded Research.

Generally, if someone else is paying you to do your research, it isn't eligible to claim under the R&D credit. This includes money from grants, contracts, or any funding "otherwise by another person."

**Example:** Business H is contracted with NASA to develop improved rockets.

While Business H is conducting experiments and otherwise meeting all the requirements, this does not qualify, because NASA is paying them to do the work.

If Business H developed their rockets independently, with their own money, and then sold the finished rockets to NASA, then the research would likely be qualified.

## Social Sciences.

Only research related to hard sciences can be claimed for the R&D tax credit. Research related to the arts, humanities, or social sciences is specifically excluded. In its documentation, the IRS specifies that economics, business management, and behavioral sciences are considered social science, and thus aren't eligible.

**Example:** Business G conducts research into the efficiency of American businesses, and identifies opportunities for improvement.

Since this research is for a social science, it does not qualify.

If you outsource your tax preparation, it's crucial to review everything yourself before the returns are filed, and to be sure that your partner will support you in case of an audit. You are responsible for everything that you submit to the IRS, even if a third party prepared it. You need to be able to stand behind and explain everything that's submitted, or work with someone who will do it on your behalf.



# Moving Forward

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The R&D tax credit represents a significant opportunity to save money on your taxes. Whether you're a large corporation or small startup, if you qualify to claim the credit, it's absolutely worth looking into.

It's also a complicated credit, and it's important to keep that in mind as well. Getting it right means dedicating a substantial amount of effort toward documenting your activities and building the evidence you would need in case of an audit.

The final takeaway: remember that you don't need to go at it alone. An experienced tax partner can help you navigate the process of claiming your credit, and give you the support you need throughout.

# Ready to see if you qualify?

Pilot offers bookkeeping and tax services to growing businesses, including help with the R&D tax credit. We'll handle the paperwork and help you maximize your savings.

[Get Started](#)

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