

Reproduced with permission. Published August 27, 2020. Copyright © 2020 The Bureau of National Affairs, Inc. 800-372-1033. For further use, please visit <https://www.bloombergindustry.com/copyright-and-usage-guidelines-copyright/>

INSIGHT: Financing Innovations in Emerging Technologies With R&D Tax Credits



BY YAIR HOLTZMAN AND JOSEPH LALLY

Throughout history, mankind has continuously developed its base of scientific knowledge through research, experimentation, and discovery. In a quest for solutions to everyday problems, mathematicians, scientists, and engineers have been able to connect the dots in such a way that leads to transformational technological innovations. When these very rare and groundbreaking discoveries do occur and are able to significantly propel industries forward globally, the time periods in which such innovations occur have been labeled “industrial revolutions.”

There have only been three such labeled periods in U.S. history: the First Industrial Revolution circa 1765, featuring the development and application of the steam engine leading to robust manufacturing and railroad capabilities; the Second Industrial Revolution circa 1870, widely considered the most important, with the emergence of new capabilities for electricity, gas, and oil, the applications of the internal combustion engine, and the development of automobiles and planes; and the Third Industrial Revolution circa 1969 instituting the rise of electronics, telecommunications, and elementary computing.

Current-day, many believe we are experiencing the Fourth Industrial Revolution brought about by “Industry 4.0” and the emergence of the Internet and supercomputing. Worldwide, billions of people and an infinite number of machines and devices are currently connected and communicating. Moore’s law, which called for the industry’s doubling of transistors per chip every two years, and subsequent technological breakthroughs have led to unprecedented levels of computer processing power and data storage capacity.

The capabilities of supercomputing during this period of Industry 4.0 are being developed and improved

significantly at an unprecedented rate. Companies have and will continue to develop and improve products, software, or work processes leveraging these advancements to provide new experiences and achieve greater efficiencies.

To help fuel the cycle of innovation, U.S. companies are eligible to take advantage of key funding opportunities offered by the Research and Development (R&D) tax credit. The credit rewards companies for their investment of employees, time spent from the conceptualization through implementation phases of development. To qualify for the R&D tax credit your employee’s activities do not need to be revolutionary or groundbreaking to an entire industry, they only need to be evolutionary or incremental for your company.

IMPACT OF COVID-19 ON THE NEED FOR 5G CONNECTIVITY

The global pandemic has left many companies struggling to transition their networks, data, and workforce onto a remote infrastructure that can handle workloads as well as provide a seamless, virtual office-like experience that helps employees and clients stay connected. In order to handle all of the interactions and to streamline connectivity to near real-time processing 5G networks have been in high demand.

5G antennae have already been, and will continue to be, deployed with increasing density around high population zones. While the antennae are smaller, the increased number and physical width of them can be appended to any city’s existing infrastructure, as opposed to centrally located cell towers to catch and process data at a rate nearly 100 times faster than existing 4G technologies.

The increasing supply of 5G capabilities creates opportunities for companies, in all industries, to continue to innovate software focused on increased speed and lower latencies to improve the performance and reliability of its systems resulting in new capabilities for a more modern workforce.

ARTIFICIAL INTELLIGENCE (AI) AND ADVANCED MANUFACTURING

Artificial intelligence represents the evolution of supercomputing. The Turing Archive for the History of Computing defines artificial intelligence as “the science of making computers do things that require intelligence when done by humans.” AI enables computers to solve complex problems for the purpose of delivering results and for building machines and algorithms that can learn to think like humans. Some recent product examples incorporating AI include Apple’s Siri and Amazon’s Alexa, which can respond to human questions by searching a database and identifying the most appropriate answers or responses. Advanced Manufacturing utilizes artificial intelligence in conjunction with industrial robotics and voice enabled devices to improve the operational efficiency of factories, warehouses, and distribution systems. These technologies are increasingly being customized and integrated by manufacturers and distributors to automate and optimize production processes. Resulting smart factories and systems are being designed and developed to monitor controls and equipment and to generate automatic responses based on data received. This is improving the efficiency of equipment maintenance, inventory levels, order picking, order tracking, and other operational activities.

EDGE COMPUTING AND THE INTERNET OF THINGS (IoT)

Cloud computing involves centralized servers, stored in data centers, which constantly receive and process data from mobile devices on the network. This architecture proves burdensome for processes that require more complex calculations, increasing latency, and delayed transactions.

Edge computing is a term referring to a decentralized computing infrastructure, where servers and storage are located at the edge of the network and closer to the mobile devices with which they communicate. Speed of data processing is dramatically increased, computational needs are more efficiently met, and transactions can be completed virtually in real-time. In addition to improving performance, edge computing also reduces operational costs by requiring less bandwidth and reducing latency.

The decentralized infrastructure allows everyday appliances to be embedded with computing devices, sensors and processors which are connected to the Internet. Some recent examples of products and services that utilize edge computing include autonomous vehicles, streaming services, and smart homes.

PRIORITIZATION OF DATA ANALYTICS

Companies continue to focus on capturing data from existing systems to organize and repurpose into business insights. Leaders now prioritize creating a culture

where decisions are made increasingly as a result of these insights as the dependence upon innovative data technologies continue to grow. Some examples include:

- Enhanced visualization tools to organize and structure data in an easier, more user friendly format;
- Automation of analytical tasks through machine learning techniques;
- Merging IoT devices with analytical tools (e.g., time series analytics to monitor and identify trends in real time); and
- Incorporating blockchain technologies to enhance the reliability and trustworthiness of data points, improving insights gained for predictive analysis. By using data points derived from the blockchain, business leaders can rely on high-integrity datasets to develop insights and make decisions.

Developing these tools through an iterative design process allows companies to better understand the data by-products that they inherently produce and continuously improve upon the features that will lead to more informed and less time-consuming decision-making procedures.

ADDITIVE MANUFACTURING (3D AND 4D PRINTING)

Additive Manufacturing includes 3D Printing, the process of making three dimensional solid objects from a digital file using equipment to output successive layers of material until the desired object is created. 3D Printing has primarily been used for rapid prototyping, parts design iterations and customization, and small-scale production. However with improvements in speed, quality, and materials 3D printing could very quickly become adopted for larger scale production.

4D printing is an emerging technology that uses programmable material in 3D printing, to add the fourth dimension of transformation. The programmable matter in the 3D object is able to react to external stimuli such as temperature, pressure or humidity and change its form, behavior and properties according to its programming. As an example, the U.S. Army Research center is planning on using 4D printing technology to print camouflageable soldier uniforms which can change depending on the environment, and can protect against toxic gases.

4D printing leverages advances in materials science and new capabilities in simulation software to provide greater quality, capability, efficiency, and performance over conventional techniques used in manufacturing and building. The ability of 4D printing to help reduce cost and processing time will be one of the major drivers for its increasing adoption. 4D printing is projected to be increasingly used in military and defense, aerospace, automotive, healthcare, textile, and other industries.

VIRTUAL REALITY (VR) AND AUGMENTED REALITY (AR)

Research into virtual reality technology has exploded in recent years as large, well-known companies have made huge investments in its development. While the world of gaming and entertainment were early adopt-

ers, VR applications are now used in many organizations and industries including the military, engineering and construction, healthcare, education, business and more.

Most commonly, the virtual experience is enabled through a VR headset which is connected to either a computer or a smartphone or other mobile device. Products currently under development include Google Cardboard, Samsung Gear VR and Google Daydream, and Oculus Go.

Virtual reality tools are already being used to help surgeons plan their surgeries, individuals to experience a travel destination from home, children to take a simulated walk on the moon, and soldiers to train for multiple combat scenarios. The future will be full of even more VR applications as businesses of all kinds figure out ways the technology can enhance their services and operations.

Rather than provide a fully immersive virtual experience, augmented reality technology overlays digital information (images, text, etc.) on the real world via devices such as heads-up displays, smartphones, tablets, smart lenses, and AR glasses. Augmented reality has uses way beyond enhancing entertainment. For example, retailer IKEA created an AR app to help shoppers visualize what products may look like in their home.

Companies in aviation, automotive, healthcare, travel, and tourism are developing augmented reality solutions and service offerings. Augmented reality technology is being used to enhance traveler experiences in many ways. For example, with a fully developed augmented reality technology app, somebody in an unfamiliar city could simply point their smartphone at a building, and popping into their line of sight might be all relevant building details, including any retail stores, restaurants, and corporate offices. A couple of AR tools currently under development include ARKit by Apple and Google's ARCore.

CYBERSECURITY

Cybersecurity includes software and protocols that are designed to identify, alert, and protect information systems against harm caused by unauthorized network access and data theft. Hackers often target names, email information, telephone numbers, dates of births, social security numbers, and bank account and data, which are then manipulated or sold on black markets for financial gain or to simply cause disruption. This type of disruption is not uncommon; over 50% of organizations have suffered from some level of attack. The impacts of these attacks have caused billions of dollars in damages on top of critical organizational downtime and loss of consumer confidence in companies that cannot effectively protect their user data.

Emerging technologies create more opportunities for cyber risk. As connectivity between devices and networks grow, so do malicious attacks, sophisticated hacking techniques and data privacy concerns. To combat bad actors taking advantage of the opportunities brought about by the innovations mentioned above, creative solutions are being developed and implemented to ward off threats in real time.

Examples of these solutions include:

- **Hardware Authentication:** authentication control technologies controls a network of interconnected tech-

nologies, which prevent unwanted devices from connecting to a secure network.

- **Cloud Technology Features:** virtualized intrusion detection, prevention systems, virtualized firewalls, and virtualized systems security continue to be developed and implemented. Infrastructure services (IaaS) will continue to innovate and offer solutions on a large scale adapting to new threats brought about by emerging technologies.

- **Deep Learning:** innovating new ways to detect malware and network intrusion to assess threats at the entity level instead of the user level that can create advanced autonomous processes for assessing the malware and reduce exposure to large scale attacks.

By leveraging automation tools, organizations are incorporating artificial intelligence and machine learning techniques to build adaptive networks which continuously assess and report on statistical deviations from any normal functionality. These frameworks offer opportunities to run diagnostics more frequently, with evolving accuracy over time as the software processes the data and can highlight any anomalies virtually as soon as they happen.

For any companies in industries that house highly-proprietary or personal consumer data such as financial services, supply chain management, and healthcare, investment in first-in-class cybersecurity systems will be required to ensure that they are doing everything possible to protect sensitive information.

THE R&D TAX CREDIT—INTERNAL REVENUE CODE SECTION 41

The rapid evolution of technology forces most companies, and certainly those in technical industries, to constantly innovate. Failure to do so can quickly lead to a company's demise from falling behind the competition or offering out of date or obsolete solutions. At every stage throughout the innovation process, from ideation and conceptualization all the way to commercialization or implementation, these companies will encounter technical challenges related to developing products, software, and manufacturing or production processes. As most business owners have learned, however, these technical challenges can be very costly to overcome.

Fortunately our federal government, as well as many state governments, currently provide valuable economic incentives to counter the burden and reward companies for undertaking these inherently risky projects and initiatives. These generous financial incentives are intended to foster the technological advancement of U.S. companies, thereby creating more and higher paying jobs and increasing our global competitiveness.

The federal R&D tax credit is available to any business that attempts to develop new, improved, or innovative products, software or trade processes. In addition to revolutionary type activities, which may be new to an entire industry, the R&D tax credit is also available to taxpayers that have performed evolutionary type activities, such as improving the performance, functionality, reliability, or quality of an existing product, software, or trade process. Some examples of these types of development efforts for emerging technologies may include developing or improving:

- Algorithms for enhancing the fundamental, basic, or underlying computer processes (e.g., new or improved methods of sorting or searching for data);
- Architectures, software systems, operating systems, mobile applications, or platforms;
 - Order management system functionality;
 - E-commerce applications development;
 - Image or signal processing, artificial intelligence advancements, speech recognition;
 - Simulation and cloud-based solutions, including algorithmic testing and market simulation platforms; and
- Custom enterprise platforms, middleware, and APIs developed to integrate architectures.

Four-Part Test

For activities to qualify as research according to section 41 regulations, the taxpayer must be able to illustrate that the qualified activities meet each of the following four tests, commonly known as the four-part test:

1. Must be intended to resolve technological uncertainty, which exists at the outset of the project or initiative. The uncertainty may be related to the capability of achieving project goals, appropriate design, or methods and techniques required for developing the business component;
2. Must rely on a hard science, such as engineering, computer science, biology, chemistry, or physics;
3. Must relate to the development of a new or improved business component, defined as a new or improved product, process, software, technique, formula, or invention to be sold or used in the taxpayers trade or business; and
4. Substantially all qualified activities must constitute a process of experimentation involving testing and evaluation of alternatives to eliminate technological uncertainty. This might include assessing a design through computer modeling, trial and error testing or complex evaluation or analysis.

Correctly applying [Section 41](#) regulations and correctly calculating the R&D tax credit is critical for maximizing taxpayer benefit and achieving sustainability upon IRS audit.

Qualified Research Expenses

The R&D credit is primarily comprised of the following types of Qualified Research Expenses (QREs):

1. Internal wages paid to employees for Qualified Research Activities (QRAs); this includes those individuals directly performing the QRA, those individuals directly supporting, and those individuals directly supervising those individuals.
2. Supplies used and consumed in the process of experimentation or used to build and/or test prototypes.
3. Contractor expenses paid to a third party for performing QRAs on behalf of the taxpayer, regardless of the success of the research. These expenditures will be allowed at 65% of the actual cost incurred.
4. Rental or lease costs of computers for payments made to cloud service providers (CSP) (e.g., Amazon Web Services) for the portion of costs committed to

hosting a development-related server, versus a standard “production” level environment and so long as the underlying development efforts satisfy Section 41 regulations.

5. Basic research payments made to qualified educational institutions and various scientific research organizations. These expenditures will be allowed at 75% of the actual cost incurred.

If Contractor expenses are included in a claim the taxpayer has two additional burdens of proof. First, the taxpayer must be able to prove that they assumed financial risk in the development project. This means that they would have to pay the contractor regardless of a successful outcome. Second, the taxpayer must maintain significant intellectual property rights in the development project and will have substantial rights, but may not need to maintain exclusive rights, to the products, processes, software, or know-how that are developed through the work completed. Proof of financial risk and intellectual property rights can usually be established by reviewing the signed contract or agreement between the parties in the project.

Methodology for Computing QRE

Once it has been determined that qualified activities have been performed and that the taxpayer has assumed the appropriate financial risk and will maintain any significant intellectual property, a taxpayer must analyze an appropriate method for identifying, quantifying, and supporting eligible qualified research expenses. It is critical to implement a sound methodology to capture QRE as the burden of proof regarding all claimed expenses is on the taxpayer if examined by tax authorities. As such, establishing a methodology that can demonstrate the nexus between qualified research expenses and qualified research activities will provide a stronger case for the taxpayer’s position.

Determining a methodology relies on a taxpayer’s record-keeping policies in how they capture and retain employee and contractor time spent on various projects and activities, along with how they are accounting for potentially eligible supplies and CSP costs. Generally, the following represent the various methodologies companies may look to implement in order to capture qualified research activities and related expenses:

Project Accounting Systems

Companies that use project accounting systems for employee time tracking may leverage this data to help determine the amount of time employees have spent developing or improving various business components. The advantages in using project accounting system data is that it is a contemporaneous timeline of what an individual was working on throughout the tax year(s) in question and provides a strong case for proving a nexus between qualifying research activities and the related qualified research expenses.

Project accounting systems however are often imperfect tools when relied solely upon for purposes of capturing all eligible qualified research expenses. These time tracking systems were not designed with the intent of capturing and organizing the data with reference to Section 41 regulations, and therefore, fall short in determining a true value of a taxpayer’s research credit. For example, project accounting software will capture

time spent by individuals directly performing activities on certain projects, but will not capture the related contractor fees, direct support, or supervision provided by various personnel who assisted in development-related activities. Many times high-level personnel are not required to track their time to specific projects or activity codes and therefore are not appropriately included in a research credit analysis, despite direct involvement in a technical capacity and large potential wage contributions to the credit.

Reasonable Estimates & Oral Testimony—Survey Approach

When project accounting and a time tracking system does not exist, companies may still claim a research credit by implementing a survey methodology for identifying qualified research activities. In *Union Carbide Corp. v. Commissioner*, the U.S. Tax Court applied the “Cohan Rule” to hold that a taxpayer can rely on reasonable estimates when actual expenditures aren’t available through oral testimony. Specifically, employees could be interviewed to identify research projects, the work performed and the amount of time spent by each employee. This court opinion is favorable to taxpayers in its application of the type of evidence needed to support a research credit claim. For taxpayers without detailed time records, reasonable estimates based on the longstanding rule in *Cohan v. Commissioner*, may be allowed.

Interviews by way of this survey approach may be an effective way to capture more qualified research activities and related expenses, but can be examined with a higher degree of subjectivity by a taxing authority if challenged, since qualified percentages are estimated to the best knowledge of the interviewee as well as the interviewee’s interpretation of what is deemed as qualifying activities.

Hybrid Methodology—Project Tracking & Survey Approach

Creating and implementing an appropriate methodology for claiming the research credit most often relies on some aspects of each of the above methods. For example, if a taxpayer’s R&D cost center strictly uses a well-designed, detailed time or project tracking system that is an accurate representation of employees’ time, the taxpayer may elect to use this data. If the taxpayer’s engineering cost center however only tracks a portion of time, or, to only certain projects, the taxpayer may elect to interview appropriate members of the engineering team and apply percentage estimates of time spent on direct involvement, supervision, or support of development related activities. The qualified research expenses from both the R&D cost center’s project accounting system as well as the engineering cost center survey results can both be aggregated as wages for qualified services, and would be appropriate to apply towards calculating the research credit. Often this type of tailored approach is the most appropriate way to capture a research credit that is both accurate and sustainable upon examination.

Calculating the Research Credit

There are two standard methods of calculating the Section 41 R&D credit. The credit is reported on Form

6765, Credit for Increasing Research Activities, and is included with the tax return. The methods for calculating the credit are the traditional “regular credit” method and the Alternative Simplified Credit (ASC) method.

Regular Credit Method

The Regular Credit is 20% of the current-year QREs in excess of a base amount. One of the factors used in the calculation of the base amount is historical QREs. Using the traditional method, some taxpayers are required to determine their QREs for years as far back as 1984.

Alternative Simplified Credit Method

The ASC credit is 14% of the current-year QREs in excess of 50% of the average QREs for the three tax years preceding the tax year for which the credit is being determined. Firms that have not claimed the R&D credit in the past or that may have difficulty determining their historical QREs may find the ASC to be more beneficial.

Contemporaneous Documentation

Having established and implemented an appropriate method for computing a research credit, a taxpayer should organize and retain examples of contemporaneous qualitative documentation that can support the QRE claimed. Despite documentation *not* being a requirement for filing for a research credit, it is preferential to keep the following types of representative examples of documentation that has been created in the ordinary course of conducting the qualified research activities:

- Technical design requirements;
- Logical, functional, or physical design specifications;
- Experimental models, CAD drawings, prototypes, computer simulations;
- Test plans, logs or scripts;
- Revision documents regarding changes or alternatives to technical requirements or specifications; and,
- Emails, correspondence, calendar appointments, meeting minutes, and the like.

By taking the steps to appropriately identify qualification criteria, a methodology for capturing QRE in the most accurate and sustainable way and retaining contemporaneous supporting documentation taxpayers can rely on a strong position for the basis of their research credit claim.

INTERNAL USE SOFTWARE (IUS)

Today, emerging technologies are synonymous with software development. The single link between all companies, across nearly every industry is the reliance on some type of software to drive or assist a business’s operation. While companies continue to drive innovation through systems software and application-based software, they may still be eligible to recoup some of their investment through R&D tax credits. There are how-

ever more specific rules around IUS vs. software that is principally held for sale, lease, or license.

The Treasury and IRS regulations released on Oct. 3, 2016, that clarified the definition of IUS. These final regulations contain several important changes related to the definition of IUS, the definition of “high threshold of innovation,” and offer additional guidance for claiming the R&D tax credit for IUS expenditures. These are taxpayer friendly changes for companies who spend significant resources developing internal use software.

Historically, the regulations for IUS were ill-defined and unclear. The final regulations clarified this definition to say that IUS is defined as software developed by the taxpayer for general and administrative functions that facilitate or support the conduct of the taxpayer’s trade or business. The general and administrative functions are *limited to*:

- human resource management,
- financial management, and
- support services functions.

If the software was marketed to third parties for sale, lease, or license, or, if the software allowed third parties to initiate functions or review data on the taxpayers system (e.g., software that allows users to track a package or review inventory), the software would not be held as IUS and thus only subject to meeting the requirements of the four part test outlined above.

If software is determined to be IUS, the taxpayer may still include the expenses for purposes of claiming a R&D tax credit, but there are three additional requirements that must be met in order to be deemed qualified:

(1) The software must be innovative. (It results in a reduction in cost or an improvement in speed that is substantial and economically significant);

(2) Developing the software involves significant economic risk. (The taxpayer commits substantial resources to software development and, due to technical risk, there is substantial uncertainty that it will recover the resources in a reasonable period); and

(3) The software is not commercially available. (The taxpayer cannot purchase, lease, or license and use the software for the intended purpose without modifications that satisfy the first two requirements).

The final regulations clarify that internally developed software is considered *innovative* if the development would result in:

- a substantial and economically significant reduction in cost,
- an improvement in speed,
- any other measurable improvement.

The regulations also reiterate that *significant economic risk* exists only if the taxpayer commits substantial resources to the development and the likelihood that such resources will be recovered within a reasonable period is substantially uncertain.

In defining substantial uncertainty, the final regulations note that the uncertainty must relate to the capability or methodology, but not the appropriate design of the business component to create a higher threshold for eligibility than Congress originally intended for IUS.

Overall, this created many more opportunities for companies to reclaim a significant portion of their investments through the R&D tax credit and will continue to offer a way for companies to drive growth and inno-

vation as software development and application environments become more complex.

RECENT R&D TAX CREDIT LEGISLATION & OTHER UPDATES

Recent R&D tax credit legislation has made the credit more generous and more accessible to taxpayers than ever before.

PATH Act—Permanent Credit & The Payroll Tax Offset

On Dec. 18, 2015, President Obama signed into law the Protecting Americans from Tax Hikes Act (PATH). This legislation retroactively renewed and made permanent a collection of expired tax provisions for both businesses and individuals, the largest of which was the R&D tax credit.

The PATH Act also allowed businesses with no federal tax liability and gross receipts of less than \$5 million to claim the R&D tax credit against their payroll taxes, essentially making it a refundable credit capped at \$250,000 for up to five years. A taxpayer does not necessarily have to be considered a startup or even a small business to take advantage of the payroll offset so long as it satisfies the following two requirements:

1. Gross receipts less than \$5 million in the taxable credit year; *and*
2. Zero gross receipts for any taxable year preceding the fifth taxable year period ending with the taxable credit year.

Tax Cut and Jobs Act

On Dec. 22, 2017, President Trump signed into law the Tax Cuts and Jobs Act (TCJA), implementing the most sweeping update to the U.S. tax code since 1986 tax reform enacted under President Reagan. The centerpiece of the TCJA was a permanent reduction in the corporate tax rate from approximately 35% to 21%, increasing the value of the reduced credit by just over 20%.

IRS LB&I Safe Harbor Directive

On Sept. 11, 2017, the IRS released a [Directive](#) providing a safe harbor only for taxpayers within the Large Business & International (LB&I) division claiming Section 41 research credits. The directive was implemented as both taxpayers and auditors recognized the significant burden a research credit exam imposed given the complexity and size of the claims within the LB&I division. The directive intended to provide an efficient and uniform way to determine QRE.

The directive explains, “Taxpayers who incur research and development (R&D) expenditures and follow U.S. Generally Accepted Accounting Principles (GAAP) for book, account for those expenditures following Accounting Standards Codification (ASC) Topic 730: Research and Development. The definitions of R&D under ASC 730 and research and experimental under IRC 174 and IRC 41 have many similarities. These similarities coupled with the taxpayer’s attestation that the costs reported as Qualified Research Ex-

penditures (QREs) are book ASC 730 R&D costs, less specifically excluded costs (e.g., indirect costs, foreign research, quality control, etc.), may assist the exam team in significantly reducing the scope of the examination and the resources required for the taxpayer and the Service.”

For most companies that meet the LB&I criteria and satisfy the requirements of the directive, they will benefit from the lower risk of capturing QRE in the way the IRS describes. A taxpayer may elect to solely rely upon the directive for its entire research credit claim, or use it as a part of a hybrid methodology for claiming a portion of QRE that will generally be uncontested, in addition to QRE that is not included within the confines of the directive (e.g., contract research expenses).

CONCLUSION

The R&D tax credit is a very generous incentive for U.S. technology companies seeking to minimize their tax liability, lower their effective tax rate, generate cash flow, and refuel their R&D cycle. The information covered in the sections above are based on the authors' knowledge, experience, and expertise. The content is aimed at educating taxpayers who may have begun to research the use of emerging technologies such as 5G, artificial intelligence, edge computing, additive manufacturing, virtual or augmented reality, advanced data analytics, and cybersecurity and what impacts these or other emerging technologies may have on their products and operations.

Now that the R&D tax credit has been made a permanent part of the tax code, it can be relied on by technology companies as a powerful tax minimization and planning tool. While properly claiming the credit requires time, resources, and expertise, it clearly provides significant monetary and operational benefits to eligible companies. Whether your company has begun to research and experiment with the emerging technologies highlighted in this article or not, if you have technical employees and are attempting to innovate your software, products, or trade processes then you should be taking advantage of the R&D tax credit. Doing so will increase your company's competitiveness, provide annual additional funding needed for critical reinvestments, and allow you to drive growth and innovation for years to come.

This column does not necessarily reflect the opinion of The Bureau of National Affairs, Inc. or its owners.

Author Information

Yair Holtzman is a Tax Partner at Anchin, Block, and Anchin, R&D Tax Credits and Incentives Practice Leader and is also the leader of the Chemicals & Energy and Life Sciences Practice Industry Groups. He has over 20 years of experience working with technology companies from start-ups through Fortune 500 companies.

Joseph Lally is a Senior Manager in the R&D Tax Credits and Incentives practice group at Anchin.