Discussion Paper Submission
Final Version
Fuelling Innovation to Transform our Economy

1 June 2018

Submitter: Roger Ford

Final Version

My Details:

- Roger Ford
- President@nzsa.org.nz
- Organisation: New Zealand Software Association
- Role: President

Background/Demographics:

The New Zealand Software Association is a member organisation of Software Industry businesses, owners, and leaders. It has been an important player in the growth of the software industry in New Zealand since the early '90s. Its current membership represents 130+ businesses, with several hundred others being actively involved over the last two-three decades.

I have been a business builder for software development and consulting organisations for nearly three decades. I have played a leadership role in the growth of over a dozen businesses, as well as advising or mentoring another 250+. These businesses range in size from 1 person working from home to multinationals such as Oracle and Microsoft. Over this time, I have employed over 400 staff and contractors, negotiated over $100 million in software licensing/engineering/consulting deals (both in NZ and internationally), and advised several government agencies on technical matters concerning technology and software.

Note:

This is a personal submission, which draws on expertise from my professional experiences, as well as observations from discussions with member organisations of the NZSA. Please note, this submission does not represent or advocate on behalf of the NZSA members.

R & D Grant/Funding Demographics

I have personally been involved in several funding activities including grants, tax credit claims, equity raising, debt structuring, investment due diligence, board level papers & presentations, etc. This includes four R & D Growth, Project, and Career grants from Callaghan Innovation, over the last 4 years.

I have also been involved with the tertiary education sector on R & D. This has included applications to the MBIE Endeavour Fund.

Opening Remarks

In response to the Ministers' Foreword, I note there are key principles that guide the purpose of the discussion paper:

- The focus is on the role science, innovation and research can play in the vision of a better New Zealand. It particularly notes innovators and entrepreneurs.
    - Innovation and Entrepreneurial activity occur when scientific discovery or invention is applied or commercialised. This is encapsulated in the in the IAS38 definition, but typically falls outside the Frascati definition. **The focus on OECD R&D measurement does not fully align with the stated intent for this incentive to drive business R & D support**. By definition, it excludes innovation and commercial development activity.
- "NZ Gross Expenditure on R&D is low compared to OECD". There is an assumption throughout this paper that this can be addressed by employing more people in R & D activity.
    - It should be noted that New Zealand employs roughly the same number of Researchers per thousand employed as most other OECD countries. (http://www.oecd.org/innovation/inno/researchanddevelopmentstatisticsrds.htm) . Our R & D gross expenditure is disproportionately low relative to our level of human capital. This would indicate we are light on R & D infrastructure, and/or more effective at turning R & D spending into productivity. Our efficiency here is a selling point for overseas investment. Our focus on less capital-intensive innovation has meant a higher ROI for R&D but has also resulted in lower gross expenditure. Question: do we want to be investing in capital intensive invention? Is it what we are good at?
    - Please note Finland, Denmark, Israel and South Korea are outliers within the OECD, as shown in the link above. For New Zealand to achieve the stated goal of 2% through increased employment, we would need to reach 12.36 Researcher per 1000 Employees, putting New Zealand near the top of the OECD rankings.

Innovation Definition: Innovation is: production or adoption, assimilation, and exploitation of a value-added novelty in economic and social spheres; renewal and enlargement of products, services, and markets; development of new methods of production; and establishment of new management systems. It is both a process and an outcome

Question 1:

With the focus on Scientific and Technology ***invention***, rather than ***application*** aspects of R & D, the greatest pool of talent/human capital is in the Tertiary Education sector. There is a well-documented disconnect between the research done in Tertiary Educational Institutes and our business "for profit" organisations. To achieve the desired economic outcomes, as well as measurable improvement within the OECD, I'd suggest pre-qualifying R & D expenditure by businesses with Tertiary Institutes. This would achieve several benefits to the economy by bringing the two sides together. Conversely, allowing these Tertiary/Research entities to qualify directly for the Tax Incentive would undermine the pairing of business and academia (easier to act as individuals rather than partner).

Question 2:

The intention of the scheme as stated here does not seem to align with the intention stated by the ministers. The Ministers do not appear to be looking to give incentive for resolving scientific or

technological uncertainty. They state 2 goals: (1) increase R&D investment by private business and (2) improve the level of expenditure/investment in R & D in relation to GDP. By choosing to focus on scientific outcomes rather than productive outcomes, the economic or social benefits are lost from the discussion.

Question 3:

This is a valid program – it is encouraging investment by businesses in Research and Development for scientific or technological ***invention***. This is admirable and worthy of supporting. However, this is proposed as a replacement for the Callaghan Innovation Growth Grants, which have been a key vehicle to growing businesses that are ***applying*** technology advantage to the creation of products and services. I see these as two different aspects of R & D. The current Growth Grant model disadvantages investment in creation of scientific and technological ***invention***. The discussion paper Tax Incentive proposes a model that disadvantages investment in the ***application*** of technology.

A note about NZ: we are some of the world's best innovators, designers, & creative minds. Our uniqueness from cultural, environment, social, etc perspectives underpin this. It is at the heart of our success in the software world. However, we are less competitive on the global scene for pure invention. The shape of our economy & population struggles to support/justify the financial investment required for capital intensive scientific/technological invention. We do not have the mining industry of Australia, the sovereign threat of Israel, or the domestic market of America. Our profile is a strength in innovation and application of technology, whereas it is a weakness for high cost scientific R&D.

Our success in the software industry has been driven by applying new technologies to the problems of the world, rather than scientific discovery.

A note about the R&D definition: The Frascati model was established in 1945. This is important because at the time, technology ***invention*** and ***application*** were not distinct, as they are today. An invention had a fixed function that was defined by its application. Since this time, programmability has emerged – you can now change the application of an invention. IAS38 is the global standard which incorporates both aspects, whereas the Frascati model is focused on the invention aspect. Software sits at the middle of all this, as the technology that enables this "programmability".

This is becoming increasingly important as we undergo the Digital Transformation of economies and societies – the invention in the compute, storage, and communications technologies is a fraction of the story. The vast majority of the digital transformation story is how these are applied to the functioning of our society and the shape of the goods and services we produce.

If this R & D Tax incentive is intended to be the centrepiece of the Government support for private enterprise as we rapidly evolve into a digital world, I believe it has to include aspects such as "novelty" and "application". I do not see the reason for excluding these, which the investment community and global financial world has embraced.

Question 4:

The scientific method is appropriate for many aspects and is closely aligned with the agile approach used today by software development teams. Software Testing aligns with Experimentation, and Functionality are the decomposition of a hypothesis ("these" technologies can be applied to "this" "need/problem" in a better way).

Digital technologies are opening the need for exploratory or creative methods. Machine Learning/analytic approaches to big data to identify patterns or other artefacts use exploratory forms of research & development. This has a different cost and investment profile, as well as different commercialisation models. For example, the machine learning required to train systems for speech or vision recognition. Other forms of Government support may be appropriate.

Likewise, the content/material creation aspect of the digital economy/society is important to consider. The creative process can be expensive and valuable. It can also be tightly intermingled with the invention/application process used to create software applications. It is worth noting that data and creative content tends to maintain or increase in value over time, whereas software functionality tends to decrease in value rapidly. Building a high value economy for NZ may depend more on our skills around application, data, design, and creativity than it does on high capital cost scientific inventions.

The focus of this R & D Incentive is to encourage investment in an area NZ has traditionally been weak in. While it is important to address our weaknesses, we also need to play to our strengths. I am concerned that this paper suggests winding back support for areas where are have a natural global competitive advantage in favour of an area where we have natural disadvantages. I do not see the rationale for abandoning concepts incorporated into IAS38 such as novelty, application, etc, which are the areas where we have the greatest global advantage.

This is especially important as we enter the digital era, where most inventions are being made freely available so eco-systems can form around them. For example: GPS, computer vision, blockchain, machine learning, operating systems, programming languages, encryption & security protocols, software development frameworks, 3d printing, etc. All the technologies that underpin the digital era are so abundantly available that they are free or a negligible cost. We can play a role, but it's more likely to leverage our talent than expenditure on plant & equipment.

Question 9:

If we are encouraging R & D in a digital economy, then businesses are investing in software, data, processes, etc. These are continually developing in this agile era, so the separation between "business as usual" and "transformation investment" is blurred. There are established accounting practises adopted by tax agencies (i.e. IRFS, GAAP), and the wider financial investment community that address this.

Our issue is not with the level of employment in R & D – it with the level of spend per FTE, as highlighted in the introduction.

Question 12:

The IAS 38 standard has met the needs for Software R & D to date. This discussion paper hasn't presented an argument as to why this standard is now considered inappropriate.

The Frascati model does cater for Software technology ***invention*** adequately. If invention/discovery is the only goal of this Tax Incentive, rather than including software ***application*** development, then I believe the proposed definition is fine. This does raise an important question – how are we going to support ***application*** development, which most of the economy is undertaking? This is no longer just a question for the software industry. Every industry that is migrating to the digital world is now creating software-based goods and services. How do we support their R & D efforts to apply digital technologies in novel ways, if this is not included in the proposed centrepiece of Government R&D support? None of their efforts to "go digital" would qualify under this proposed incentive scheme, and I believe that effort is the greatest opportunity for NZ.

R&D tax team, RDincentive@MBIE.govt.nz

In response to discussion paper on R&D tax incentive for NZ

s 9(2)(a)
May 2018

Enatel is a company that designs, manufactures, markets and sells a range of world leading hi-tech products.

https://www.enatel.net/

Enatel is a company that employ's approx. 200 staff on our Christchurch based facility. We also have a range of suppliers and service providers that support us in the wider community.

We currently have around 30 Engineering staff, with a range of skills, in Software, Hardware, GUI, App, Test and validation, and compliance.

The current Callahan innovation and TDG grant has been instrumental in assisting with our research and discovery process. We are a company that is committed to commercialising our inventions and technology. We make products that are focused on electrical power conversion, AC to DC, DC to AC, DC to DC. That is our DNA, surrounding that core we also now extend into full control and monitoring via Linux based controller. The Software department has grown 100% in the last few years and is set to continue.

These products are used in three market segments

1. Motive Power: electric fork truck/ pallet truck charging. Enatel is a world leader in this industry but we must continually improve of product range - in efficiency, power, size and an increasing need for seamless connectivity.
2. Solar: electrical power generation using our 99% efficient inverter. This is the start of our new generation product, but we need to also development hardware and software that monitors and controls these devices at a region or country level using IOT technology. This will always be changing and advancing requiring significant technology support.
3. Standby Energy: our systems power essential services like mobile phone sites and central exchanges. This market is also about cost, efficiency, power, AC grid support and connectivity.

We have found the current TDG scheme and staff very supportive and of significant benefit to our business.

Adding Tax credits would be an excellent improvement and allow even greater internal investment in staff and intellectual property development. We know there is Government commitment to increase R&D spending over the next few years. It its paramount in doing so we do not stall current progress. A straight forward transition into tax credits is required.

What exactly would Enatel invest in with the extra tax credit contribution?

Like many smaller companies we share skills across many projects and market segments. This is cost effective but projects can stall as constrained skillsets are required by multiple demands. The best way to scale is to have dedicated resources for each market vertical allowing true focus and faster time to market. Enatel would hire more engineers to allow this strategy to come together.

Noted in reading the discussion document, where some statements that could cause concern.

"However, the intention of the scheme is to give incentives for activities which resolve scientific or technological uncertainty"

Every day we find technical challenges that can be significant and if not resolved cause significant impact to our business and customers. Some challenges may take 18 months to resolve and sometimes actually cannot be resolved.

"Technological Uncertainty" has been challenged before in previous rounds of tax credits. This is area of most concern.

We could say we Enatel would like to develop time travel and that would meet the criteria.

However, what we will say is things like s 9(2)(b)(ii) [redacted]

Can we do it? Not sure. We think so but there are significant challenges along the way. We will need to use advanced predictive control algorithms, exotic magnetics and semiconductor materials. We will use our most experienced staff, probably some contracting for areas of speciality.

Would that meet the criteria? **"Technological Uncertainty" see below**

Some activities are excluded from the tax incentive

Certain activities are routinely excluded from R&D tax incentives. They may be excluded because governments do not wish to incentivise a particular activity through the tax system. Other exclusions remove uncertainty over whether a particular activity could be considered R&D or to clarify the boundary between experimental development and pre and post-development activity, or innovative and routine work."

Table 1: high level of Enatel NPI process , combining agile and stage gate.

s 9(2)(b)(ii)

[redacted]

Thank you for the opportunity to submit a response to the draft paper.

Summary:

Adding tax credits to TDG would be an improvement, allowing Enatel to tackle advanced projects.

Clarity around **Technological Uncertainty** is key, we are not all time travel focused companies. (meant in a positive way)

Regards s 9(2)(a) [redacted]

Eligibility:

Not part of the official questions, but the eligibility criteria needs to ensure that R&D that is used in developing a saleable product (which still has uncertainty etc up front) but has been requested by a customer, is still eligible. Even if the IP in the development transfers to the customer eventually, the goal of employing more highly paid R&D resources and hence generating more PAYE and NZ company profits is still being met.

Question 1: If SOEs, Crown Research Institutes, District Health Boards, Tertiary Institutions, and their subsidiaries are excluded from the tax incentive, what will the likely impact be on business R&D in New Zealand?

SOEs should probably be included. Many of them perform important R&D activities that should be encouraged.

Question 2: How well does this definition apply to business R&D carried out in New Zealand?

We understand 'scientific' methods have been replaced with 'systematic' methods which makes sense.
Using the definition of NZ IAS 38 is excellent for the purposes of the Growth grants since the information required is mostly readily provided by the accounting system. Moving to the OECD Frascati Manual will require a whole new process to be developed to capture the relevant information. This will create compliance cost which will offset and negate some of the benefits of the tax credit. Therefore, we would strongly recommend keeping NZ IAS 38 as an established and defined base.

Question 3: Does this definition exclude R&D that you think should be eligible, please illustrate with examples.

Software R&D is an area of concern that could easily fall outside the definition mooted at this point. Software is an area that NZ could really excel at (examples like Xero already exist) and is a product that is readily delivered to worldwide markets. R&D for software should be encouraged via the tax credit regime – especially in what is an ever-expanding global digital economy.
Once a software product has been conceived and the concept developed further, the actual creation of the product may not carry the 'technical risk' required of the definition. This is because the development may be a matter of working out how to reorganize and link already available pieces of open source code to create the product, even though the product itself is unique and new technology.
This is an area that requires some focus to get it included – possibly with the inclusion of a 'novelty' factor rather than technical uncertainty that was included in 2008.

Incremental improvement – R&D that goes into improving existing products should be included in the definition of core activities. A 25% increase in the efficiency of a product may be considered to be a huge 'advancement in technology' but if it got there over ten years with an increase of 2.5% per year – would that still be worthy of qualifying?

Question 4: Does the scientific method requirement exclude valid R&D in some sectors, please illustrate with examples?

We understand that scientific has already been changed to systematic which correctly widens the application.

Question 5: What would the impact be on business R&D in New Zealand if a materiality test was applied to both the problem the R&D seeks to resolve and the intended advancement of science or technology?

Incremental improvement – R&D that goes into improving existing products should be included in the definition of core activities. A 25% increase in the efficiency of a product may be considered to be a huge 'advancement in technology' but if it got there over ten years with an increase of 2.5% per year – would that still be worthy of qualifying? It should. Therefore a materiality threshold should not be applied.

Question 6: How well does this definition apply to business R&D carried out in New Zealand?

See comments above.

Question 7: Are there any reasons why the exclusions should not apply to support as well as core activities? Please describe.

Protection of IP via legal and admin costs of applying for and processing patents and trademarks should be eligible. NZers should be encouraged to protect their IP to preserve its value for as long as possible to earn NZ dollars in what is an expensive process anyway.

Pre-production activities should be included. There can be much uncertainty and trial and error to get the set ups correct and testing facilities established before commercial production runs can be processed. All tooling up, trial runs and the products produced from these trial runs should be eligible (regardless of whether they can eventually be sold). If there is uncertainty whether the production run will be successful, it should be eligible.

Dual purpose activities – as long as a reasonable proportion of a dual-purpose activity (say 30%) is related to R&D, the whole activity should qualify. Even though 70% of the product has been produced before, the 30% experimental part, if it failed, may render the whole product unusable.

Question 8: Please provide any examples where social science research is/has been a core part of business R&D in New Zealand?

N/a

Question 9: What is the likely impact on business R&D in New Zealand if dual purpose activities are ineligible for the R&D Tax Incentive?

Dual purpose activities – as long as a reasonable proportion of a dual-purpose activity (say 30%) is related to R&D, the whole activity should qualify. Even though 70% of the product has been produced before, the 30% experimental part, if it failed, may render the whole product unusable.
At the end of the day, businesses including businesses that conduct R&D are there to make a commercial product for a profit. Therefore, just because an item can be sold, if that was uncertain before production was commenced, it should be eligible.
R&D activities which have a high level of materials content may have issues with the 10% cap on overseas expenditure where materials have to be sourced from overseas. This could result in purchasing through NZ based third parties to come in under the limit so potentially artificially increasing the project cost so limits are not exceeded. We doubt this is the intention but may need to be clarified to be absolutely sure.

Question 10: What are the advantages and/or disadvantages of limiting eligible expenditure to R&D labour cost?

Labour cost incurred in running pilot trials, setting up and tooling etc should be eligible otherwise an important part of the R&D program is excluded.
You cannot run an R&D department without incurring overhead. Therefore, an allocation of overhead should be included. The definitions included in the current Callaghan grants work well.

Question 11: What are the advantages and/or disadvantages of setting overhead costs as a percentage of R&D labour costs? What would the appropriate percentage be?

Every business is different and incur different proportions of overhead costs compared with R&D labour costs. Therefore, applying a strict % allowance would be a mistake.
It is better to define the types of overhead costs that can be included/ excluded (similar to the current Callaghan rules) to cater for all the different business types involved in R&D.
A fairer option could be to allow for both. A simple method of a fixed % if a business wants simplicity, or the list of included/ excluded overheads for others.

Question 12: Are there any reasons why expenditure related to R&D activities for which commercial consideration is received should be eligible for a tax incentive? Please describe.

As noted above, every R&D business has the goal of developing a commercial product to produce a profit. If there is no risk since the development is funded by an external party – then the development should not be eligible. But just having a 'reasonable expectation' of receiving consideration would exclude a lot of valuable R&D from being eligible. I am sure most R&D projects are entered into with the 'reasonable expectation' being able to sell the product at the end of the project, so it seems nonsensical to exclude these projects from being included. The current exclusion definition is too wide.

Question 13: What variations or extensions to the definition of core activities are required to ensure it adequately captures R&D software activities?

Software R&D is definitely an area of concern that could easily fall outside the definition mooted at this point. Software is an area that NZ could really excel at (examples like Xero already exist) and is a product that is readily delivered to worldwide markets. R&D for

software should be encouraged via the tax credit regime – especially in what is an ever-expanding global digital economy.
Once a software product has been conceived and the concept developed further, the actual creation of the product may not carry the 'technical risk' required of the definition. This is because the development may be a matter of working out how to reorganize and link already available pieces of open source code to create the product, even though the product itself is unique and new technology.
This is an area that definitely requires some focus to get it included – possibly with the inclusion of a 'novelty' factor rather than technical uncertainty, or to resolve a problem that hadn't previously been addressed in the same manner.

Question 14: Are there reasons why continuity rules should not apply to tax credits? Please describe.

Yes. Owners of early stage R&D companies should be encouraged to invest in R&D – even if it results in a temporary loss-making situation – since it is rare that businesses in the tech space are profitable from day one. Allowing tax credits to be exempt from continuity rules could provide the initial owners with a higher sell price for their business and hence they may be encouraged to perform more R&D than they would have otherwise.
Allowing cash refunds for loss making companies eventually would assist those companies when they need help the most.

Question 15: Is the minimum threshold set at the right level? If 'no', please provide further details.

Seems about right.

Question 16: How important is a cap or a mechanism to go beyond the cap? Please provide further details.

The cap makes sense from a fiscal risk point of view. However, the pre-registration mechanism to obtain prior approval for higher amounts will correctly encourage larger overseas firms to set up shop in NZ. Pre-registration would provide more certainty than Ministerial discretion.

Question 17: What features of a Ministerial discretion or pre-registration would make them most effective?

Qualifying criteria along the lines of those used by NZTE in the IGF process could be used to measure the potential benefit to NZ i.e. amount of NZ income tax, PAYE and NZ suppliers being utilised by the company. Projections would be compared against actual audited spend.

Question 18: What are your views on the proposed mechanisms to promote transparency and enhance evaluation?

For NZ companies competing on the world stage, providing details about R&D tax credits (and hence R&D spend) would provide an indication of their size. This can be detrimental for companies who provide products to large multi-national companies who may think the NZ company is bigger than it is due to its global reach and technological innovation. It would also be detrimental for the negotiating ability of companies who have high customer

concentration. Once a customer finds out how dependent a company is on them, they can leverage that knowledge.
So we would object to having the credit recipients published – even with a two year lag.

There would also be a public backlash for companies who are sold overseas at some future time for receiving Government funding and having the ownership then head away from NZ. The public ignores the benefit of employing the R&D people in NZ before the ownership change, and quite probably the R&D stays in NZ after the change of ownership as well.

Question 19: Are there any other risks that need to be managed? Please describe.

There are always going to be the minority who game the system fraudulently. However, that shouldn't be a disincentive to encourage the vast majority who genuinely need encouragement to perform more R&D.
Publicising prosecutions would be a deterrent. Also having a strong penalty regime in place for flagrant disregard for the rules (although the tax penalty regime already in place could be used).
Clarity of guidelines is on what is considered adequate record keeping is important so businesses can ensure compliance. This needs to be straightforward and not too onerous.

Question 20: What are the risks with making external advisors liable in this way?

If the threshold of serious offence is high enough, then there should be little risks. If too low, it would discourage advisors participating and would increase professional indemnity premiums.

Question 21: What is the right level of information required to support a claim?

Annual returns on the benefit being received by NZ Inc.
Possibly a random test check of supporting invoices/ calculations – focusing on businesses with higher risk profiles.
Supported of course by specialised IRD audit teams.

Question 22: What opportunities are there for customers to submit R&D Tax Incentive claims via third party software?

Could be a great opportunity for some businesses to be incentivised via the tax credit to create this software!
Submitting electronically is the most efficient way to administer and if the third-party software can capture all the supporting documentation requirements as well, it would be a bonus.

Question 23: What integrity measures do you think Inland Revenue should use?

Random test checks of supporting information backed up by audit regime.

Final comment:

The ability to refund tax credit in cash for loss making companies would really assist those start ups that need all the help they can receive.

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s 9(2)(a)
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1 June 2018

R&D Tax Incentive Team
Ministry of Business, Innovation & Employment
By email: RDincentive@mbie.govt.nz

Submission by Jenny Sutton : R&D Tax incentive Consultation

By this letter I add my full support to the submission by Level Two, the deep-tech venture incubator. (A copy of Level Two's submission is attached for ease of reference.)

I am a seed and early-stage investor in several deep-tech ventures located at Level Two and a member of an advisory board for Level Two.

Ventures I have invested in which are or have been based at Level Two include the innovative and game-changing ventures, Lanzatech, Mint Innovation, Dotterel Technologies and Avertana,

In addition to those ventures, I am a seed or early-stage investor in a number of New Zealand ventures (in the region of 85 in total) either directly or indirectly. Those ventures cover a range from pure digital tech to social enterprise, clean-tech, fintech and medtech.

The points made in the Level Two submission are well made and the submission has my full and unequivocal support.

Representatives of the R&D Tax Incentive Team might find it useful to meet with a few of the experienced founders of ventures based at Level Two and I know Level Two would welcome such a meeting.

Yours sincerely,

s 9(2)(a)

Jenny Sutton

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1 June 2018

R&D Tax Incentive Team
Ministry of Business, Innovation & Employment
PO Box 1473
Wellington 6140

Dear Sir/Madam,

R&D Tax Incentive Submission

Thank you for the opportunity to provide a response to the discussion paper "Fuelling Innovation to Transform Our Economy."

This submission is largely in relation to the proposed R&D Tax Incentive being non-refundable, and the proposal to end the Growth Grant Scheme. This submission is written by Level Two on behalf of early stage deep technology companies operating in New Zealand. Topics are discussed in order of importance.

Background

Level Two is a technology incubator on the fringe of Auckland's CBD that provides space and support for young companies in the area of "deep tech." In this context, deep technology is defined as "technology that is based on tangible engineering innovations or scientific advances and discoveries." The companies that Level Two supports are in a range of technological areas and industries which include clean technology, engineering, aerospace, medical technology and biotechnology, among others.

It is important to differentiate between what is broadly considered "tech" companies and the "deep tech" companies which Level Two supports. "Tech" often encompasses software and digital innovation companies, whereas "deep tech" is restricted to describing companies which operate on the edge of science and engineering. The needs of these companies and the timelines on which they operate differ substantially. Deep tech companies are often heavily involved in generating, protecting and commercialising intellectual property (IP).

The companies supported by Level Two are typically pre-revenue and are heavily involved in research and development activities. Examples of companies that have inhabited this innovation cluster include Rocket Lab and LanzaTech, with current residents including BioConsortia, Pictor,

Dotterel, Mint Innovation, Avertana, Pastoral Robotics and Breathe Easy. Level Two currently incubates seventeen companies engaged in research and development activities, with the vast majority of their spend (approximately 80%) being on R&D.

These companies are partially reliant on government funding, but fund much of the operations of their companies primarily through capital raising activities from local and international investors. The Level Two companies have proven to be highly successful in attracting investments with over US $500 million in capital secured to date. Attracting capital into New Zealand to fund deep technology companies is challenging and the benefits to enhance overseas investment through government funding is a significant factor in attracting and de-risking foreign investment. These benefits largely include Callaghan Innovation Getting Started Grants, Project Grants, Student Grants and Growth Grants, as well as the research and development loss tax credit and similar schemes.

Refundability of R&D Tax Credits

The R&D Tax Incentive which is to be introduced from 1 April 2019 is proposed to be "non-refundable" and therefore the support it will provide to start-up and early stage businesses which are usually in a tax loss position is negligible. These businesses will only be able to carry forward their tax credit to a future tax year. This proposal is inconsistent which many global R&D tax credits (for example, the policies in place in. Australia, UK and Canada) which are refundable to early stage companies in a tax loss position.

As the Government undertakes further assessment of this issue we strongly urge it to consider a "refundability" mechanism and that these refunds are paid on a quarterly basis. Start-up companies need cash in order to fund their ongoing research and development activities and to accelerate the growth of the business. While there is uncertainty around the refundability of the R&D Tax Incentive it will be more difficult for early stage businesses to raise capital from investors.

We understand the current research and development loss tax credit cash-out policy will not be affected by this proposed R&D Tax Incentive scheme. As such, if the proposed scheme does not incorporate a refundability element, we strongly support the retention of the current treatment of tax losses.

Growth Grant Scheme

Early stage companies working in the deep technology space typically take years before they generate revenue or make a profit. This is due to the R&D and IP heavy nature of these companies. Their growth in the very early stages is supported by private investment and Callaghan Innovation's R&D Grants. These companies rely on the Growth Grant in order to bridge the gap between being small enough to benefit from Getting Started Grants or Project Grants, and being in a position where they are generating revenue to fund further research and development themselves.

By ending the Growth Grant Scheme, funding for R&D and IP heavy companies to get to the next stage in their development is severely limited. This is particularly crucial because their time to profit

is significantly longer than that of software or other digital tech companies. We strongly urge Government to reconsider the removal of the Growth Grant Scheme.

Level Two associated companies which have benefitted from the Growth Grant Scheme:

- Hydroxsys Holdings Limited
  (Oct 2017 - Sep 2020)
- Avertana Limited
  (Jul 2017 - Jun 2020)
- Biotelliga Limited
  (Jan 2017 - Dec 2019)
- Drikolor New Zealand Limited
  (Apr 2016 - Sep 2017)
- Pictor Limited
  (Apr 2014 - March 2017)
- Rocket Lab Limited
  (Oct 2013 - Sep 2018)
- LanzaTech received grants from the Foundation for Research, Science, and Technology (as the Growth Grant Scheme did not exist before their relocation to the USA)
- BioConsortia (then BioDiscovery) also benefited from government grants prior to the establishment of Callaghan Innovation

Eligible Expenditure (Question 10)

Two possible approaches are proposed for determining eligible expenditure. It is the belief of Level Two that eligible expenditure should not be limited to solely the direct R&D labour costs. For deep technology companies, the materials incorporated into prototype products or pilot plants, as well as the items consumed in the R&D process, are a significant expenditure and should be considered "eligible expenditure" under this R&D Tax Incentive scheme.

Minimum Expenditure (Question 15)

The minimum eligible expenditure threshold is proposed to be set at $100,000 in order for a company to qualify for the R&D Tax Incentive. While this minimum threshold does not apply to R&D activities outsourced to an Approved Research Provider, Level Two believes this threshold is too high for start-up companies. Many start-up businesses run very light for the first year or so, and often they don't pay the founders. As such, the true "cost" to the business and shareholders to reach $100,000 of overheads and other direct costs would be much higher.

We recommend the minimum expenditure threshold is reduced to $50,000 in order to allow early stage companies to access the R&D Tax Incentive at a time when it is material to their ongoing activities.

Experienced founders of ventures based at Level Two would welcome a meeting with representatives of the R&D Tax Incentives team to discuss this submission.

Yours sincerely,
Level Two Holdings Limited
24 Balfour Road, Parnell
s 9(2)(a)

This comment is written on behalf of early stage deep technology companies operating in New Zealand. The following companies support this submission:

s 9(2)(a)

Dotterel Technologies Limited

s 9(2)(a)

Pastoral Robotics Limited

s 9(2)(a)

Mint Innovation

s 9(2)(a)

O2O2 Facewear

s 9(2)(a)

Hydroxsys

s 9(2)(a)

Pictor Ltd

s 9(2)(a)

Avertana

s 9(2)(a) [redacted]

New Zealand Cosmeceuticals

s 9(2)(a) [redacted]

Breathe Easy

s 9(2)(a) [redacted]

NZeno

s 9(2)(a) [redacted]

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1 June 2018

R&D tax incentive team
Ministry of Business, Innovation & Employment
PO Box 1473
WELLINGTON 6140

via email: RDincentive@MBIE.govt.nz

Dear Sir / Madam,

FUELLING INNOVATION TO TRANSFORM OUR ECONOMY: A DISCUSSION PAPER ON A RESEARCH AND DEVELOPMENT TAX INCENTIVE FOR NEW ZEALAND

General Comments

Deloitte welcomes the opportunity to comment on the Government discussion paper, "Fuelling innovation to transform our economy" (the "discussion paper"), which proposes to introduce a 12.5% non-refundable tax credit on eligible research and development (R&D) expenditure for eligible businesses from 1 April 2019 – the research and development tax incentive ("R&D tax incentive"). The proposed regime will replace Callaghan Innovation's Growth Grant from 1 April 2019, with a transition period through to 31 March 2020.

Overall, we are pleased to see the Government putting the spotlight on how effective policy settings can support and grow New Zealand's R&D ecosystem, fostering economic innovation.

We have had opportunity to review and consider the submission prepared by the Corporate Taxpayers Group (CTG) and concur with the submission points raised in that submission.

We are happy to discuss the details of our submission with Officials further at their request.

Summary of submission

Appendix 1: Design principles and underlying philosophy

- We recommend developing the proposed regime on the basis of the 2008 regime is a firm starting point.
- We submit that an effective way of enhancing the sustainability of the proposed regime (i.e. future-proofing) will be to codify the underlying principles and policy

intentions of the proposed regime (and clearly communicate in official published guidance).

- We are eager to receive further guidance on the overarching design of the research, science and innovation policy framework and the other specific policy tools that the Ministers intend to implement.

We strongly support the Living Standards Framework approach to thinking about wellbeing and prosperity in New Zealand - natural, social, human and financial / physical (i.e. the Four Capitals). We note that there are correlations between the R&D tax incentive and the advancement of national wellbeing. Appendix 2: R&D tax incentive terms

- We recommend increasing the tax credit rate above 12.5%.
- We support attaching imputation credits one-to-one.
- Clarification on how the credit will apply to earners of exempt income would be useful.
- The thresholds are set at about the right level but the lower threshold could be removed to further support start-up businesses.
- We prefer the 'pre-registration' mechanism for applications above the upper threshold.
- Application and compliance procedures for Approved Research Providers should be minimized.

Appendix 3: Business eligibility criteria

- We endorse the CTGs submissions on the business eligibility criteria.
- We support the 'business test' and would value further published guidance (with examples) on how specific legal structures will be treated (e.g. social enterprises, charitable trusts, other not-for-profit bodies).
- We consider that negative and unintended consequences will result from excluding State Owned Enterprises from the regime. They must be eligible for the R&D tax credit as they operate as commercial businesses and compete with other businesses who will be eligible to receive credits.
- We do not agree with requiring taxpayers to satisfy all three criteria of 'control', financial risk' and 'effective ownership' in order to be eligible. These criteria will disincentivise large, international R&D businesses from locating R&D in New Zealand.
- Addressing the policy frameworks that discourage inward migration and cause outwards migration for R&D businesses is best left to another, separate policy consultation process.

Appendix 4: Businesses in tax losses & continuity issues

- We submit that a significant issue with the proposed regime is that it no longer provides cash flow to R&D businesses as under the Callaghan Innovation Growth Grant.
- We submit that the tax credit should be either fully refundable, refundable in any year where a company is in tax losses, or refundable for any company committing more than 20% of its total expenditure to R&D.
- Officials could consider aligning the proposed regime with the provisional tax system.
- Not providing tax credit continuity (across a change in business control) works directly against the normal life-cycle of R&D innovation. Officials should align policy settings with the natural lifecycle of R&D businesses.

Appendix 5: Definition of R&D & excluded activities

- We submit that Officials should add an additional limb to the definition of R&D, to recognise R&D that is 'novel' but does not necessarily / strictly resolve technological or scientific uncertainty (i.e. 'use cases').
- We look forward to further comprehensive guidance on how Officials will define 'scientific method'.
- We support the application of a 'materiality test' to both the problem and intended advancement / novelty.
- We note that the distinction between core and support services, coupled with the exclusions for dual-purpose activities, and the exclusion for social sciences / humanities, can result in some interesting and unintended outcomes.
- We submit that Officials should remove the exclusion for R&D activities that fall into the social sciences, arts and humanities, remove "cosmetic or stylistic changes" from the exclusions list, remove dual-purpose activities from the exclusion list, and apply the exclusions list to core services only.

Appendix 6: Eligible and excluded R&D expenditure

- We consider that the success the proposed regime will largely depend on the strength of the definitions given to eligible / ineligible R&D expenditure, and the in-practice application of the definitions.
- We support labour and other indirect costs, including overheads, being included and apportioned in the calculation of R&D expenditure.
- We submit that labour costs should be considered widely to include all types of employee/ contractor payments.
- Officials should empower businesses to apportion their own R&D overheads, in line with the overarching philosophy of a self-assessment.
- We consider that the treatment of capitalised items that ultimately fail to form a depreciable asset should be considered thoroughly.

- We support the CTG's submission concerning blackhole feasibility expenditure.
- We submit that interest expenditure should be eligible to the extent it is directly traceable to R&D.
- We submit that the loss or gain on the sale of an asset used for R&D should be included in the calculation of R&D expenditure as this is a real cost (or gain) of utilising the asset.
- We propose that the cost of acquiring technology / intangible assets to advance R&D should be eligible.
- We submit that the proposed 10% limit on overseas expenditure is unduly restrictive. Alternative policy settings for overseas R&D could be: increasing the limit to 20% or 30%, creating specific industry exemptions, or creating a pre-certification mechanism.

Appendix 7: Administration of the proposed R&D tax incentive

- We recommend that Callaghan Innovation should provide training and assistance to the team that will be responsible for reviewing applications.
- We consider that the supporting information required should be within the ambit of what a normal and responsible R&D business would already be collecting to document and co-ordinate their R&D activities / expenditure.
- We submit that the claim period be aligned with the existing tax administration framework for the filing of tax returns by a tax agent.
- We note that the sooner businesses have clarity on the supporting information required to make an application the better, as this will assist in business planning.
- We agree that on-going evaluation of the R&D tax incentive is necessary and useful to maintain the efficacy and integrity of the policy.

We have detailed the above submission points further in the attached appendices.

s 9(2)(a) [redacted]

Yours sincerely
DELOITTE
s 9(2)(a) [redacted]
for Deloitte Limited
(as trustee of the Deloitte Trading Trust)

Appendix 1: Design principles and underlying philosophy

1. Firstly, we acknowledge that the proposed regime stands on the shoulders of the 2008 tax credit regime.[1]

   1.1. We consider the 2008 regime a strong foundation, however we note that there have been material changes in the nature of the R&D ecosystem over the last ten years.

   1.2. We submit that an effective way of enhancing the sustainability of the proposed regime (i.e. future-proofing) will be to codify the underlying principles and policy intentions of the proposed regime (and clearly communicate in official published guidance).

   1.3. Clearly articulating and codifying the underlying principles will act as an effective interpretive guide for R&D businesses and professional advisers, a framework for the application review team, and a context for future evaluations of the regime's effectiveness.

   1.4. To this end, we agree with the following (non-exhaustive) list of principles from the discussion paper:

      1.4.1. Increasing R&D, especially private R&D, is an effective means of growing innovative industries and diversifying the economy;

      1.4.2. New Zealand's economy can and should be inclusive, productive and sustainable;

      1.4.3. A broad-reach incentive (i.e. a tax credit) is consistent with the broad-base, low-rate philosophy of our tax code, treating all taxpayers in a consistent manner;

      1.4.4. Effective tax policy increases certainty for taxpayers, and is simple;

      1.4.5. Simple tax policy includes clear eligibility criteria, definitions and administration processes, and is supported by published guidance;

      1.4.6. Taxpayers can be expected to meet their responsibilities and obligations, particularly by fairly self-assessing their tax liability / benefit;

      1.4.7. A fair system is an efficient system, and vice versa;[2]

      1.4.8. An R&D tax incentive will be most effective when it is aligned with the lifecycle of R&D projects;[3] and

      1.4.9. A successful tax policy will be sustainable long-term and responsive to changes.

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[1] See page 12 of the discussion paper.
[2] Innovation is often very time sensitive.
[3] This means understanding the centrality of cash flow to many R&D and growth businesses – that 'funding' is about the timing as much as it is about the amount. On this point, we appreciate Anna Favelle's perspective in her interview with the National Business Review.

2. According to the Ministers' foreword, the proposed regime aims to lift New Zealand's R&D expenditure as a percentage of GDP to 2% by 2027 (in comparison with the OECD average of 2.38%).

   2.1. We commend the Ministers for identifying the important, if not central, role that R&D and good innovation plays in diversifying the New Zealand economy, moving us up the value chain, improving our productivity, making us a high-wage market and ensuring our long-term sustainability.

   2.2. If we are to achieve "a step change" and live up to our "international reputation as a place of daring and innovation"[4] consideration should be given to making the goal a more aspirational 3% or 4% of GDP by 2027.

3. We accept that an R&D tax incentive is one policy tool in a wider policy framework design, aimed at a more inclusive, productive and sustainable economy.

   3.1. We are eager to receive further guidance on the overarching design of the research, science and innovation (and wider economic) policy framework and the other specific policy tools that the Minister intends to implement.

   3.2. Having a better understanding of the whole picture, and individual brush strokes, will enable us to continue making effective policy submissions in the future, and consider individual policy settings within the bigger picture.

4. We note that page nine of the discussion paper makes specific reference to the Treasury's Living Standards.[5]

   4.1. We strongly support the Four Capitals approach to thinking about wellbeing and prosperity in New Zealand - natural, social, human and financial / physical. As stated in our recent State of the State 2018 article, Wellbeing in abundance: Looking after our own backyard,[6]

   > *There is a lot to be said for taking a wider lens on New Zealand's prosperity than just our ability to grow financial and physical capital. As the guide to Treasury's 2018 Investment Statement Investing for Wellbeing 4 states, "Fiscal sustainability is not an end in itself. It is a tool to support the wellbeing of current and future generations, including helping to achieve social and environmental goals.*

   4.2. We note that there are correlations between the R&D tax incentive the advancement of national wellbeing. In respect of aligning the R&D tax incentive with the Four Capitals we note:

      4.2.1. We consider that the Living Standards Framework may be a useful basis for measuring and evaluating the on-going effectiveness of the policy.

      4.2.2. The inclusion of, specifically, 'natural' capital in the Living Standards Framework may be a useful basis to consider how the proposed regime will influence our progress towards a sustainable, low-emissions, low-

[4] See page 3 of the discussion paper.
[5] https://treasury.govt.nz/information-and-services/nz-economy/living-standards-0: "Our vision is focused on higher living standards for New Zealanders. Achieving this requires growing the country's human, social, natural, and financial/physical capitals which together represent New Zealand's economic capital."
[6] https://www2.deloitte.com/content/dam/Deloitte/nz/Documents/public-sector/Deloitte-NZ-SotS-2018-Article-1.pdf

carbon economy.[7] R&D and Innovation has a fundamental role to play in this transition.

[7] Note that the problem definition on page 5 of the discussion paper specifically identifies our high-carbon economy and climate change as core economic challenges.

Appendix 2: R&D tax incentive terms

Tax credit rate

5. We do not believe that the 12.5% rate is competitive. While comparative to the median OECD rate, stimulating R&D to >2% of GDP and attracting large R&D businesses to New Zealand requires an incentive than is a step-change more enticing than what is currently offered by other countries, especially Australia.

6. We support the proposed approach to attaching imputation credits as this will be most beneficial to shareholders.

Thresholds

7. We submit that upper and lower thresholds are set at about the right level.

   7.1. An alternative policy setting, that would benefit start-up businesses, would be to remove the lower threshold. Small businesses would benefit from the tax credit by staying competitive against larger businesses that can access the R&D tax incentive under the proposed policy settings.

   7.2. While removing the lower threshold could increase the overall cost of administering the system, if the regime is administered in a taxpayer friendly manner it should assist small businesses in being able to assess eligibility themselves rather than having to hire tax specialists to complete claims (and likely negate the financial benefit of making the claim).

   7.3. Concerning applications with greater than NZ$120m in R&D expenditure, we prefer the 'pre-registration' mechanism for evaluation as this will be most efficient for R&D businesses.

   7.4. We submit that the process for reviewing applications above the upper threshold should have a statutory time limit to maximize certainty and efficiency for R&D businesses.

8. Approved Research Providers: We consider that the Approved Research Providers list will be useful, but submit that the associated compliance procedures to register should be minimized for the sake of simplicity and efficiency.

Appendix 3: Business eligibility criteria

9. We endorse the submissions of the CTG on the business eligibility criteria, and add our further thoughts below.

The 'business test'

10. We support the 'business test' as it aligns well with the underlying policy rationale of the proposed regime (to support commercial R&D), while also recognizing that there are a range of legal structures employed by commercial researchers and developers. The 'business test' therefore promotes a flexible and future-proof policy approach which is focused on the nature of the activities and expenditure, instead of legal structure.

11. We would value published guidance that provides specific examples of the types of entities that may pass the 'business test' as we note that social enterprises and not-for-profits ('NFPs') may pass the 'business test' in some cases. We would value Officials' specifically confirming this interpretation.[8] For example:

    11.1. Would a social enterprise be eligible where it is 'trading' with a mixed intention to both profit and create social impact?

    11.2. Would a social enterprise qualify if it demonstrates an intention to profit but intends to distribute any benefits from its R&D charitably (e.g. a tech consulting business that is researching augmented reality, but intends to open source any valuable outcomes)?

    11.3. Another example is standard NFPs (i.e. charitable trusts and charities, with charitable constrains on the distribution of its funds). Based on the 'business test', we would expect that some NFP's would be able to access the R&D tax incentive as there are instances where NFP entities can have an intention to profit within the scope of its trust deed and the relevant laws.[9] The NFP sector will benefit from clarification as many are excluded from the Callaghan Innovation Growth Grants system.[10]

Eligibility of SOEs, Crown Research Institutes, District Health Boards, Tertiary Institutions, and their subsidiaries[11]

12. We consider that negative and unintended consequences could result from excluding some government and government controlled entities from accessing the R&D tax incentive. We do not consider there are policy grounds to exclude State-Owned Enterprises from the regime. The previous R&D regime was deliberately designed to include SOEs. The following explanation in support of including SOEs was included at paragraph 3.32 of the policy document R&D tax credits - Definition, eligibility criteria,

[8] This is important as page 15 of the Paper states: "The focus of the Incentive is on private businesses."
[9] http://www.societies.govt.nz/cms/customer-support/faqs/charitable-trust-faqs/what-can-a-charitable-trust-do
[10] https://www.callaghaninnovation.govt.nz/grants/faqs
[11] Question 1: If SOEs, Crown Research Institutes, District Health Boards, Tertiary Institutions, and their subsidiaries are excluded from the tax incentive, what will the likely impact be on business R&D in New Zealand?

eligible expenditure - An officials' issues paper on matters arising from the Business Tax Review:

> "3.32 **Crown-owned businesses that are not funded to do R&D, such as state-owned enterprises, should be eligible for the credit**. In principle, crown-owned businesses that are funded to undertake R&D should not be eligible for the credit if receiving it would constitute double funding of R&D. There are options for avoiding double funding, and officials will do further work on this in consultation with crown agencies."

13. We also note that government grants are excluded expenditure, so government entities are at no additional competitive advantage due to their government backing.

Control, financial risk and effective ownership[12]

14. We do not agree with requiring claimants to satisfy all three 'control', 'financial risk' and 'effective ownership' tests in the eligibility criteria.

    14.1. The requirement to satisfy all three criteria creates a strong disincentive for large R&D businesses to begin R&D in New Zealand or migrate R&D operations to New Zealand, and may have an unintended consequence on local R&D employment opportunities.

    14.2. The discussion paper specifically identifies 'increased employment' as a policy rationale.[13] Removing the need to satisfy all three of these three criteria will maintain or increase employment in the R&D sector by offering a more attractive R&D environment for large, international R&D businesses. This is because requiring local 'control', 'financial risk' and 'effective ownership' is contrary to the standard business models for many large, international R&D businesses.

    14.3. We submit that due to our size and relative under-competitiveness (currently), policy settings need to initially reflect and respect international business practices of large R&D businesses.

    14.4. We expect that revising the business eligibility test as described will also have flow-on effects to the wider, supporting R&D eco-system in New Zealand. Locating R&D activity in New Zealand, even if the final products eventually migrate, means that we improve local skills-development and expertise and engage local business / entrepreneurial resources as a part of the R&D process.

15. Alongside the real need to attract large, international R&D businesses to New Zealand is the challenge of retaining our top NZ-grown R&D businesses and professionals.

    15.1. Creating a R&D / business environment that encourages inward migration and dissolves the need for outwards migration involves a wide and complex set of policy frameworks, and cannot be resolved through an R&D tax incentive alone.

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[12] Question 12: Are there any reasons why expenditure related to R&D activities for which commercial consideration is received should be eligible for a tax incentive? Please describe.
[13] Page 6: "Introducing a Research and Development Tax Incentive will ... lead to greater innovative business activity, thus increasing employment, industry diversity, international engagement, profitability and overall sustainability"

15.2. We recommend developing the proposed regime to focus on maximizing the potential for new employment and flourishing in the R&D ecosystem. Large, international R&D businesses are already carrying out R&D in New Zealand through local subsidiaries. Often these arrangements result in the international parent reimbursing the New Zealand subsidiary (and then retaining the IP). We recommend amending the business eligibility test to ensure that these businesses are able to continue to participate competitively in the New Zealand R&D ecosystem.

16. In the alternative, we submit that extensive guidance needs to be developed and provided on the concepts of 'control', 'financial risk' and 'effective ownership' in order to ensure the effectiveness of the eligibility criteria. We are happy to support this development further.

Appendix 4: Businesses in tax losses & continuity issues[14]

17. We respectfully submit that a significant issue with the proposed regime is that it no longer provides the cash flow available to R&D businesses under the Callaghan Innovation Growth Grant (i.e. the quarterly payment of the grant). This is important because R&D businesses often operate with tight cash flows and low/no profitability for years.[15]

    17.1. We submit that the tax credit should be, either:

        17.1.1. Fully refundable;

        17.1.2. Refundable in any year where a company is in tax losses; or

        17.1.3. Refundable for any company committing more than 20% of its total expenditure to R&D (see below reasoning).

    17.2. Officials may also consider aligning the proposed regime with the provisional tax system in way that enables businesses to gain a periodic benefit against their R&D expenditures; particularly in the transition period (i.e. taxpayers should be able to pay a lower "uplift" amount of provisional tax without forfeiting the protection from use of money interest for standard method taxpayers). This will continue the legacy of one of the positive features of the Callaghan Innovation grants system.

18. Not providing tax credit continuity works directly against the normal life-cycle of R&D innovation, where profitability / commercial viability usually coincides with equity investment.

    18.1. Without revision, there is a strong likelihood that the proposed regime will create no benefits for the large number of R&D businesses in tax losses, now or in the future.

    18.2. We submit that Officials should align policy settings with the natural lifecycle of R&D businesses.

    18.3. This could be achieved by protecting the tax credit through a continuity event using a 'same-business test'. In this respect, we agree with the submissions of the CTG.

19. To support the above submissions, we present the following table (see below).

    19.1. This example demonstrates that the higher the intensity of the R&D spend, the higher the profit margin required to fully utilize the resulting tax credits.

    19.2. In other words, the proposed regime does not reward high-intensity R&D businesses and requires them to reach unreasonable and uncommercial profitability in order to use the tax credits yearly.

    19.3. For example, if a business is committing $5m to R&D each year, they need to clear $2.23m in profit before tax in order to take full benefit of the tax credit.

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[14] Question 14: Are there reasons why continuity rules should not apply to tax credits? Please describe.
[15] This reality has given rise to the common quip amongst entrepreneurs: 'Cash is king'

If R&D comprises 10% of total expenditure (i.e. total expenses are $50m), then the business only needs to apply a 4.46% margin to be able to take full advantage of the R&D tax incentive. However, if the R&D spend is 75% of total expenditure (i.e. total expenses of $6.67m) the business must achieve a margin of 33.48% to take full benefit of the incentive.

19.4. Simply put, making the tax credit non-refundable targets small, R&D intensive businesses and also negatively affects businesses in tax losses.

Diagram 1: Scenario testing for a R&D company spending $5m on revenue; key variable is R&D as a percentage of total expenditure

($NZ 000's)	A	B	C	D	E	F	G
	R&D spend	12.5% Tax credit	R&D % of total expenditure	Total expenditure	Required PBT to fully use tax credit	Revenue	PBT margin required to fully use R&D tax credit
Low-intensity:	$ 5,000	$ 625	10%	$ 50,000	$ 2,232.1	$ 52,232	4.46%
			25%	$ 20,000		$ 22,232	11.16%
High-intensity:			50%	$ 10,000		$ 12,232	22.32%
			75%	$ 6,666		$ 8,899	33.48%
			95%	$ 5,263		$ 7,495	42.41%
Calculation:		**A x 12.5%**		**A / C**	**B / 28%**	**D + E**	**E / F**

Appendix 5: Definition of R&D & excluded activities

Is the definition of R&D effective?*[16] *Applying the scientific method and concepts of uncertainty.

20. Novelty – an additional limb of the eligibility test to support software developers?[17]

20.1. We submit that Officials should add an additional limb to the definition of R&D, to recognise R&D that is 'novel' but does not necessarily / strictly resolve technological or scientific uncertainty (also commonly referred to as 'use cases').

20.2. We believe that this additional limb will be useful to capture other types of legitimate R&D, especially in the unique context of software development.

20.3. Software developers often apply the 'building blocks' from other software development technologies, other platforms, other conceptual methods frameworks and other computational applications, and then undertake extensive development of the 'building blocks' to create an innovative and novel outcome. This process often links systems together in novel ways or innovates the 'missing blocks' to form an entirely new piece of software.

20.4. For example, last year Idealog reported[18] on the developing use of VR technologies to "help make hospital visits less scary for kids" by simulating the entire experience for them.[19] This technology takes the VR software and hardware, both of which are widely applied (i.e. virtual gaming), and photogrammetry tools, and has then done extensive work to develop these tools to be applicable in the context of a hospital environment.

20.5. In this case, research was undertaken to understand and explore if and how the VR technologies could be applied in hospitals to improve patient care. Then there was a development process where the technology was developed to address the challenges identified.

20.6. It is probable that the new applications for the VR technology will now be studied (using the scientific method) to understand whether the application is successfully advancing patient care (and will naturally evolve in response to study results).

20.7. In this case, a degree of uncertainty has been remedied – but it remains unclear as to whether it would count as R&D under the existing definition. Adding a new limb for novelty / use cases is the simplest and most effective revision.

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[16] Question 2: How well does this [R&D] definition apply to business R&D carried out in New Zealand?
Question 3: Does this definition exclude R&D that you think should be eligible, please illustrate with examples.
Question 4: Does the scientific method requirement exclude valid R&D in some sectors, please illustrate with examples?

[17] Question 13: What variations or extensions to the definition of core activities are required to ensure it adequately captures R&D software activities?

[18] https://idealog.co.nz/tech/2017/05/using-vr-make-hospital-visits-less-scary

[19] "The VR experience is a 'journey' through a hospital procedure with a robot child, who also needs the same procedure done. Together, they are introduced to doctors, nurses, the medical equipment they'll see, and sounds they will experience on the day they are in the hospital. The child's reactions, and their ability to follow instructions such as 'stay still' and 'hold your breath', help the clinical teams determine whether sedation or general anaesthetic will be required during the real procedure."

20.8. We consider that researching and developing new and novel applications / use cases on the basis of existing 'building blocks', especially for software developers, is R&D and deserves the benefit of access to this tax incentive.

20.9. R&D exists on a spectrum from the type of activity that occurs in a biology lab at a research centre to developing novel applications of AI / machine learning that contribute to the overall body of technical / digital knowledge. While there is some risk that developing novel applications may fall into the category of BAU development, this risk is better mitigated by clear eligible / ineligible R&D expenditure rules; and a wide R&D definition will better facilitate a coherent and effective R&D growth regime.

21. Scientific Method: We look forward to understanding how Officials intend to define the concept of a 'scientific method'.

21.1. We are concerned that this approach may unnecessarily exclude some real R&D, especially for software developers where it would be artificial (in some cases) to describe the coding / other development process as adhering to the scientific method. We recommend that rather than requiring a scientific method, it should only be necessary to follow a systematic approach.

Materiality[20]

22. We support the application of a materiality test to both the problem and intended advancement / novelty onlyif materiality is clearly defined (with supporting examples).

23. Materially cannot be too strictly interpreted. Very incremental improvement can actually be very material to a product or service, particularly where there is continual incremental improvement (e.g. extending battery life by 1% on a year on year basis).

Social sciences,[21] core and supporting activities[22] and dual purpose activities[23]

24. We note that the distinction between core and support services, coupled with the exclusions for dual-purpose activities and the exclusion for social sciences / humanities can result in some interesting and unintended outcomes.

24.1. For example, we are aware of R&D into augmented reality and limited / general AI concepts where social sciences research permeates the work (i.e. research to understand cognitive behaviour or to apply natural language processing effectively).[24] The research undertaken is integral to the project and probably could not be treated as a 'supporting service'.

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[20] Question 5: What would the impact be on business R&D in New Zealand if a materiality test was applied to both the problem the R&D seeks to resolve and the intended advancement of science or technology?
[21] Question 8: Please provide any examples where social science research is/has been a core part of business R&D in New Zealand?
[22] Question 6: How well does this [supporting activities] definition apply to business R&D carried out in New Zealand?
Question 7: Are there any reasons why the exclusions should not apply to support as well as core activities? Please describe.
[23] Question 9: What is the likely impact on business R&D in New Zealand if dual purpose activities are ineligible for the R&D tax incentive?
[24] Consider the complex software and behavioural psychology behind ASB's Josie (https://www.youtube.com/watch?v=sJbkc4aOuwQ) or Air NZ's Sophie.

24.2. If social sciences are excluded activities, and the list of exclusions is applied to both core and supporting services, the result is the social sciences research will probably be categorised as BAU development.

24.3. This would result in a contrived outcome as the dual-purpose activity exclusion may be applied to make the augmented reality project fall out of the definition of R&D activity altogether.

25. We submit that the following revisions to the proposed regime will make it more effective:

25.1. Remove the exclusion for R&D activities that fall into the social sciences, arts and humanities – i.e. treating it as eligible core R&D activities to recognise the complex and multi-disciplinary R&D projects becoming common in the R&D sector today.

25.2. Remove "cosmetic or stylistic changes" from the exclusions list; or clarify what this means. For example, R&D into changing the interior colour of a kiwifruit from green to red to appeal to a particular market should not be considered "cosmetic"

25.3. Remove dual-purpose activities from the exclusion list.

25.4. Apply the exclusions list to core services only (as the alternative is unduly restrictive).

26. These suggestions are predicated on an understanding that R&D activities in 2018 are complex and often multi-disciplinary. Our new digital technologies are intersecting a vast array of industries, academic domains and geographies in increasingly interesting and unexpected ways. Relaxing the list of exclusions will facilitate greater R&D growth and, to some extent, future-proof the proposed regime.

Prospecting, exploring and drilling

27. As stated, we prefer that the proposed regime is designed to ensure that the list of excluded activities does not apply to support services.

28. We further submit that if the excluded activities list is applied to both core and support services, an exception is made for "prospecting, exploring or drilling for minerals, petroleum, natural gas or geothermal reserves."

29. Excluding these activities would have a detrimental effect on the Oil & Gas sector as it needs to continue to innovate to be a long term sustainable industry. Enabling prospecting, exploring and drilling as a supporting activity will enable greater innovation in the Oil & Gas sector and align the New Zealand regime with international practice.

Appendix 6: Eligible and excluded R&D expenditure[25]

30. We consider that the success of this regime will largely hinge of the effectiveness of the definitions for eligible / ineligible R&D expenditure, and the in-practice application of the definitions. There is an obvious risk that if the definition of R&D expenditure is too wide, businesses will claim a tax credit on expenditure that is not true R&D.

31. We generally approve of the definitions of eligible / ineligible R&D expenditure. However, thought should be given to whether this should be more closely aligned with the Frascati Manual, particularly to ensure that software R&D will be eligible.

32. We would appreciate further discussion of the policy rationale behind all items on the ineligibility list so we can consider each item further.

Labour & overhead costs

33. We support labour and other indirect costs, including overheads, being included and apportioned in the calculation of R&D expenditure.

34. We submit that labour costs should be considered widely to include all types of payments to employees and contractors, including extra pay, commissions, Kiwisaver payments and any other superannuation costs (i.e. all employment / staff expenditures).

35. We submit that Officials should empower businesses to apportion their own R&D overheads, in line with the overarching philosophy of a self-assessment system. We consider that setting overheads as a percentage of labour cost, even if generous, will inequitably affect different types of R&D businesses as some are more labour-heavy than others.

36. We recommend clarifying what counts as outsourcing expenditure (e.g. costs of contracting temporary staff).

Capital assets

37. We consider that the treatment of capitalised items that ultimately fail to form a depreciable asset should be considered thoroughly.

38. We support the CTG's submission concerning blackhole feasibility expenditure.

39. We submit that interest expenditure should be eligible to the extent it is directly traceable to R&D.

40. We submit that the loss or gain on the sale of an asset used for R&D should be included in the calculation of R&D expenditure as this is a real cost (or gain) of utilising the asset.

41. We understand that the cost of acquiring technology / intangible assets to advance R&D is ineligible presumably due to the chance of double-dipping.

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[25] Question 10: What are the advantages and/or disadvantages of limiting eligible expenditure to R&D labour cost? Question 11: What are the advantages and/or disadvantages of setting overhead costs as a percentage of R&D labour costs? What would the appropriate percentage be?

41.1. We propose that this policy setting is reconsidered as there are multiple instances where assets acquired may not have attracted the R&D tax incentive, for example:

41.1.1. Pre-regime technologies / assets;

41.1.2. Assets from other jurisdictions; and

41.1.3. Assets developed by government / public entities that cannot access the R&D tax incentive.

41.2. If this policy setting is revised, we recommend that the rule factor in the associated persons test to protect against misfeasance.

Overseas R&D expenditure

42. We submit that the proposed 10% limit is unduly restrictive. Alternative policy settings for overseas R&D could be:

42.1. Increasing the limited to 20% or 30%; or

42.2. Creating specific industry exemptions from this rule in industries where overseas R&D is a necessary aspect of the R&D process (e.g. pharmaceuticals and healthcare); or

42.3. Recognising that there are legitimate, New Zealand based and New Zealand benefitting R&D projects that may breach these levels, create a pre-certification system for R&D businesses that breach the threshold where the onus is on the eligible business to prove the benefit to New Zealand. This system could rely on ministerial approval / oversight.

Appendix 7: Administration of the proposed R&D tax incentive

General

44. As noted, we consider that the overall success of the scheme will depend, in part, on the efficacy of the regime's administration. Officials propose for IRD to review applications, with recourse to Callaghan Innovation for expert advice.[26] We consider that this approach may be problematic because IRD is compliance focused obligations to maximise tax revenue.

    44.1. A compliance focus may reduce the level of certainty for R&D businesses and increase compliance costs, if a high number of applications are subject to review or audit.

    44.2. With IRD indicating that they will form a dedicated team, we recommend that IRD's team receive initial and on-going training from Callaghan Innovation.

    44.3. We also submit that specific guidance should be published on the role and limits of Callaghan Innovation in supporting IRD's application review process. The more clarity R&D businesses have on this process, the more certainty they will have in making effective business decisions.

Supporting information[27] and timing

45. We consider that the supporting information required should be within the ambit of what a normal and responsible R&D business would already be collecting to document and co-ordinate their R&D activities / expenditure – ensuring that the compliance burden is minimised (especially for smaller businesses at the lower end of the R&D scale).

46. Officials might consider differentiating the level of information required based on total R&D expenditure to assist smaller businesses who often cannot accommodate high compliance costs or requests for extensive technical information.

47. We submit that the claim period be aligned with the existing tax administration framework for the filing of tax returns by a tax agent, to minimise compliance costs.

48. We note that the sooner we can have a high degree of clarity on the supporting information required to make an application, the better. Changes to business processes and systems takes time and many will need to consider whether any changes are required well before 1 April 2019.

[26] Per page 29 of the Paper.
[27] Question 21: What is the right level of information required to support a claim?

Transparency & Evaluation[28]

49. The R&D sector is evolving continuously. We agree that on-going evaluation of the R&D tax incentive is necessary and useful to maintain the efficacy and integrity of the policy.

Penalties[29]

50. We appreciate that Officials wish to disincentive advisors from re-characterising expenditures to inflate R&D claims.

51. We consider that a better mechanism for achieving this outcome is giving thorough attention to the definitions of eligible and ineligible expenditures (and supporting guidance).

52. There are instances where a contingency fee is more beneficial to the R&D business. Those who are not deterred by the existing penalties are unlikely to be deterred by further penalties.

53. We note that tax advisors should not be subject to penalty risk where clients make claims which are inconsistent with advice provided to the client. There may be confidentiality issues with tax advisors being able to disclose the advice provided to clients, therefore penalties should not be applied unless there is clear evidence of a tax advisor's regular pattern of wrong doing.

Third party software[30]

54. We are not opposed to the use of a third-party platform to facilitate (and potentially review) R&D tax incentive applications, provided any new solution minimises compliance costs and increases the overall efficiency of the system.

Innovative Partnerships

55. We are interested in receiving more information about how the proposed 'innovative partnerships' programme will be developed and implemented.

[28] Question 18: What are your views on the proposed mechanisms to promote transparency and enhance evaluation?
Question 19: Are there any other risks that need to be managed? Please describe.
[29] Question 20: What are the risks with making external advisors liable in this way?
[30] Question 22: What opportunities are there for customers to submit R&D tax incentive claims via third party software?

SEEQUENT

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Dear Sir/ Madam

Re: FUELLING INNOVATION TO TRANSFORM OUR ECONOMY: A DISCUSSION PAPER ON A RESEARCH & DEVELOPMENT TAX INCENTIVE FOR NEW ZEALAND

Seequent Limited is writing to provide comment on discussion paper *Fuelling Innovation to Transform our Economy: A discussion paper on a Research & Development Tax Incentive for New Zealand* ("the discussion paper").

Seequent appreciates the opportunity to comment on specific issues of the R&D tax incentive, particularly the areas of the proposal that are relevant to our business as well as other businesses that are part of the software industry in New Zealand.

Our main issues with the submission document are as follows:

- The current "core activities" definition of R&D is not easily applicable to software
- The definition will incentivise technology firms to use non-best practice development models
- The eligibility tests – control/financial risks/ownership of R&D results are too restrictive
- The impacts on business R&D in New Zealand if dual purpose activities are ineligible for the R&D tax incentive
- Non-refundable tax credit
- The loss continuity rules should not apply.

About Seequent Limited

Seequent is a New Zealand company which is a global leader in the development of visual data science software and collaborative technologies on geotechnical data.

Our 3D modelling tools and technology are widely applied across industries and projects, including road and rail tunnel construction, groundwater detection and management, geothermal exploration, resource evaluation and estimation, subterranean storage of spent nuclear fuel, and a whole lot more.

Formed in 2004, the company built its flagship 3D geological modelling product 'Leapfrog' based on a pioneering algorithm that enables fast and automated formation of 'surfaces' directly from geological data. Today Leapfrog has thousands of users and is relied on by top mining and exploration firms, major geothermal energy companies, civil construction leaders and environmental science specialists.

Seequent has about 80 people involved in software development and R&D in New Zealand, 10 in South Africa and another 14 in Calgary, Canada. This geographic distribution has been primarily based on acquiring existing software companies in those countries. Based on our current growth plans we are likely to acquire additional software companies offshore in the future, sadly there are few companies with the domain knowledge we require in New Zealand. We want the regime to be supportive in ensuring that New Zealand remains the R&D hub.

In 2016 we hired 4 interns from Canterbury University as part of the Callaghan funded R&D experience grant scheme, in 2017 it was 6 interns, and another 6 this year. This scheme has enabled us to identify and hire local talent into the business. Our retention rate is very high and most people join the company to work with world class customers such as BHP, Rio Tinto and Anglo American. The company's focus on sustainable energy, environment challenges and the earths fragile sub surface "critical zone" is another strong incentive for people joining the company.

Seequent's software applications are primarily built from the "ground up" and while we use some open source libraries the vast majority of all code was hypothesised, designed, written and implemented by our software engineering and R&D teams. In the last 12 months the company has released 3 new products, Central, Edge and Works that were all researched, designed and written in New Zealand.

The company has been growing on an average of 30% per annum and to remain competitive and grow market share in a global marketplace this pace of growth is pre-cursor to sustaining our market position. New Zealand will remain our core base but our customers and their challenges are global and as such we need our go-to-market, software development and R&D capability to utilise the best people in the world regardless of their location.

Our submission

1. Purpose of the R&D credit regime

1.1 Based on the discussion document, the purpose of the regime is to have "greater innovative business activity, thus increasing employment, industry diversity, international engagement, profitability and overall sustainability."

1.2 The greatest benefit of R&D is when it is being conducted in New Zealand and utilises New Zealand workers to encourage the development of their skills and expertise. The larger the pool of talented workers in New Zealand, the more sizable the R&D activities that can be conducted in New Zealand. Larger scale R&D projects require greater capital investment that has the potential of enhancing both human and physical capital in New Zealand. What should be incentivised is R&D activities conducted in New Zealand.

1.3 We support this purpose as well as the wider goals of moving New Zealand firms further up the value chain to deliver higher wages. We believe that the Government's overall target to increase R&D expenditure to 2% of GDP by 2027 is commendable.

1.4 However for the regime to be effective and actually incentivise an increased R&D spend, we consider that the design of the regime should be set so as to capture as much R&D as possible to ensure that it actually acts as an incentive. Currently, the proposed R&D rules and much of the dialogue in the detail of the discussion document appears to be focused

on limiting or excluding significant R&D activities or expenditure. Whilst we understand the need to ensure this R&D regime is appropriately targeted to manage fiscal risk, we are concerned that an overly restrictive regime may not have the incentivising influence intended thereby making the Government R&D goal unrealistic.

2. The current proposed "core activities" definition of R&D does not easily apply to software (in response to Question 13)

2.1 Seequent's R&D activities are entirely in relation to software. In our view, and based on our R&D programme, the current definition of R&D activities that has been put forward in the discussion document does not successfully capture the majority of Seequent's software R&D spend.

2.2 As a New Zealand company which has developed a world leading geological software suite of tools, we submit that if the vast majority of our R&D programme activities will not be eligible under the proposed R&D regime, we would have to question how effective the regime will be at meeting the Government's objectives of lifting R&D expenditure in New Zealand, particularly in the digital sectors of the economy.

2.3 Our issue with the definition is that it does not accurately reflect what occurs in software development. Our R&D activities will often not be resolving scientific or technological uncertainty, but we would still consider them as R&D as our activities involve innovation in software. In software development there is often little technological uncertainty as our software engineers understand the software techniques they are using. The R&D is the dedication of resources and writing of algorithms to produce the finished product. The key in software development is the cleverness (or innovation) in designing the novel application or functionality of these software tools (irrespective of whether technical risk is present).

2.4 In order for the R&D tax credit to be successful it needs to capture as much genuine software R&D as possible. It was noted in the discussion paper that 40-50% of the value of Grants given in the last three years was made up of software R&D. This regime needs a higher degree of certainty over what software R&D will be captured. In the previous R&D tax credit regime, the threshold that was applied to software R&D expenditure was too onerous. For this new regime there is an opportunity to rectify this issue. As we have previously said the purpose of the R&D scheme should be to capture as much genuine R&D as possible, having hurdles too high is counterintuitive.

2.5 We submit the following suggestions to improve the current definition:

- 2.5.1 Incorporate the concept of "novelty" or "Innovation" to the core activities definition. An appreciable element of novelty does not have the constraints of technological and scientific uncertainty, this would better reflect the incremental improvements in software that is still R&D.
- 2.5.2 If an appropriate definition cannot be determined within the standard definition of R&D, a separate limb should be included that specifically captures software R&D.
- 2.5.3 Inland Revenue should also provide guidance in relation to the R&D tax incentive regime that provides guidance and illustrative examples with software R&D. Due to the uncertainty in this area, it will be important that the examples covered are varied with thorough explanations to provide clarity and predictability.

3. The definition will incentivise non-best practice software development models

3.1 We believe it is important to acknowledge that current best practice in the technology sector runs counter to what is incentivised by the tax credit regime.

3.2 The best practice for businesses operating in technology today is to be agile and to be constantly ready to pivot the development programme back to customer testing by early release to iteratively create a product that your customer wants.

3.3 The business model that technology firms strive for is one that is agile. Technology firms need to be in a position to continuously make incremental changes to products that fit a customer's needs. It also de-risks the development process, so that you create a product knowing that this is what your customer wants.

3.4 The issue that many technology businesses can run into is designing expensive products for which there is no customer base. A tax credit that encourages businesses to restructure their R&D programmes towards extended and long term development (simply to show technological uncertainty for the R&D tax credit), is at risk of incentivising monolithic projects with a high risk of failure.

3.5 We need to be looking at ways to encourage a thriving business ecosystem which have sustainable business models. The point of the R&D credit regime should be to support this business ecosystem and create an environment where more businesses can grow. It is important the regime is one that captures as much R&D expenditure as possible and incentivises good business practice. We consider that this is achieved by having a broader R&D activity definition (as discussed above) that allows more flexibility for the businesses to use the most appropriate business and development models.

4. The eligibility tests – control/financial risks/ownership of R&D results are too restrictive

4.1 Seequent does not support the proposal of requiring the organisation that carries out the R&D activity to own the results of R&D, nor the requirement to have control over the R&D activities and bear the financial risk. Having such onerous requirements runs counter to what is the purpose of the regime, which is to encourage R&D activity in New Zealand.

4.2 Seequent is a fast growing technology company, like all successful New Zealand technology companies' it could be in a position to attract overseas investment at some point in the future. If this were to occur it would be due to well-functioning capital markets in our technology sector. The eligibility rules as they are proposed could act as a disincentive to overseas investment.

4.3 If Seequent ended up having a multinational parent, it would be the parent who would likely hold ultimate control and ownership of R&D expenditure and the resulting intellectual property. If this were to be the case, New Zealand would likely charge for the R&D work on a 'cost plus' basis under New Zealand's transfer pricing rules with the parent bearing the ultimate financial risk. We refer to this as "contract R&D", in that the New Zealand entity is contracted to carry out R&D but does not necessarily own the results of the R&D.

4.4 Seequent is concerned that if it were to ever have a multinational parent then it would suddenly not be eligible for the credit. Seequent has grown into a multinational company with offices in Brazil, Canada, Russia, South Africa, Peru, Australia, the U.K and Chile. Having a customer base overseas means it is not always an intuitive decision to have R&D owned in New Zealand. If Seequent were to be acquired, it would be very unlikely that a multinational would change their existing business model simply due to the proposed R&D tax credit given the commercial risks this would entail.

4.5 Intellectual property from R&D is mobile, particularly in the software industry. Seequent cannot see that the economic spill over benefits to New Zealand of requiring ownership of the R&D to be in New Zealand are such that this compensates for the likely loss of the actual R&D to offshore locations by foreign owned groups who are dis-incentivised by this rule. The significant benefits that New Zealand will get from R&D are when it is physically undertaken in New Zealand by people located in New Zealand and the subsequent spill over benefits that are derived from this.

If Officials are concerned that R&D expenditure could be eligible in more than one location then there should be rule developed to target R&D claims in multiple jurisdictions for the same project.

5. The impacts on business R&D in New Zealand if dual purpose activities are ineligible for the R&D tax incentive (in response to Question 9)

5.1 Seequent takes issue with the discussion papers statement "If an activity was carried out for a R&D purpose and a non-R&D purpose, the entire activity would not qualify as a R&D activity." Seequent finds this difficult to understand as all R&D that we conduct has a non-R&D purpose.

5.2 For Seequent the purpose of conducting R&D is to exploit it so that we can continually grow our business. This business model is extremely positive for New Zealand. The larger our business grows, the more people we employ and the more we can afford to invest in R&D. By making businesses unable to claim the credit when there is a commercial purpose seems counterintuitive to what should be a scheme that promotes all R&D activity in New Zealand.

5.3 Seequent's view is that the focus should be on determining what is R&D and what is not. The fact that there is a commercial purpose to the R&D is not relevant.

6. Non-refundable tax credit

6.1 With the proposed tax credit being non-refundable, the effect is that the actual cash benefit of the R&D tax credit will be dependent on how much tax is payable in that year.

6.2 A refundable credit would provide the cash flow certainty to encourage R&D that is lacking the requisite amount of capital to proceed.

6.3 At Seequent we are focused on achieving high growth which means reinvesting our profits back into the business. As a consequence our profits and tax bill can form a relatively low

percentage of our R&D annual spend. A non-refundable R&D tax credit does not reward businesses in this situation. Receiving a cash benefit would be a far more effective way of encouraging this practice. Seequent is accordingly very supportive of the R&D tax credit moving to a refundable tax credit in its second year and also submits that this feature should commence from the first year.

7. The loss continuity rules should not apply (in response to Question 14)

7.1 Seequent's view is that the loss continuity regime should be modified for the R&D tax credit regime to be effective.

7.2 The loss continuity regime could result in the carried forward credits being forfeited where new equity is sought. For high growth companies in losses this could mean they might see no benefit from the regime.

7.3 Software companies frequently require new equity as they grow from a start-up to an established company. These are the companies that an R&D credit should be supporting.

7.4 The loss continuity rules coupled with the tax credit being non-refundable and the onerous eligibility requirements mean New Zealand software companies could be seen as less appealing investments. Software companies rely on active capital markets to support their high growth business models, an R&D credit regime needs to support these markets not disrupt it.

7.5 While we understand you intend to have the businesses in tax loss issue resolved from April 2020, we are of the view this does not provide the business certainty that this R&D credit is supposed to bring.

8. Callaghan Innovation Growth Grants transition

8.1 The Growth Grants have assisted Seequent growing into a world class software company that has conducted important R&D in New Zealand as well as employing and growing top New Zealand workers.

8.2 Seequent strongly supports the Government's position that businesses with an active Growth Grant at 31 March 2019, will have the option to continue receiving the Grant until March 31, 2020 during the period that the R&D tax credit is non-refundable. Seequent are aware that there may be scope for any Growth Grant recipients in the regime at the time to have their Grants automatically rolled over to the end of the transition period of the scheme – Seequent supports this approach.

8.3 It is imperative that the transition process for organisations that are current recipients of the Grant is as seamless and simple as possible. Organisations like Seequent are going from a system with certainty from which they benefited greatly to an unknown system. Most of the major companies that were contributing to R&D in New Zealand were recipients of Growth Grants, these companies are going from a system where they got 20% of their entire "R&D" spend back in cash to a system with a 12.5% tax credit only applying to a limited category of R&D. It is important that these companies are supported as much as possible, so that the Government's goal of increasing R&D is achieved.

Concluding statement

Seequent wants to see R&D taking place in New Zealand. While we would have preferred the Grant regime to remain, we appreciate that the new Government is wanting to try a different system. We want to see the Government's R&D goals realised and we believe that if the regime is designed effectively we can work towards achieving these successfully.

Thank you again for the opportunity to comment on these proposals and for taking the time to consider our submission.

Yours sincerely

Seequent Limited

s 9(2)(a)

BRANDON CAPITAL
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Dear Sir/Madam,

RE: Research and development tax incentive – submission in response

Background to this submission

Brandon Capital makes this submission to MBIE on the R&D Tax Incentive because the programme has significant potential to play an invaluable role in supporting and stimulating New Zealand's biotechnology industry, and we want to ensure that its critical importance and significance is well understood and appreciated by government and policy makers.

The biotechnology industry is a valuable sunrise industry for the New Zealand economy, employing a skilled work force and offering the potential of a sustainable manufacturing industry, protected by patents and strict international regulatory guidelines.

New Zealand has a great foundation of research excellence and we should be taking advantage of this to create new jobs and income in knowledge-based industries. As stated in the 2018 Global Startup Ecosystem report released by the Startup Genome and the Global Entrepreneurship Network in April, New Zealand is ranked #4 in the world for biotech potential, driven especially by the local talent pipeline. Interestingly, the report also found New Zealand has the highest density of post-secondary science graduates and Ph.D. graduates in life sciences in the world. This talent pipeline provides the foundation for a vibrant biotechnology industry, supported by an R&D Tax Incentive.

An R&D Tax Incentive is a vital component of an emerging New Zealand innovation ecosystem. Its effect is real and will compound over time. An appropriately designed R&DTI will be crucial to supporting innovation in New Zealand and industries that will ultimately drive job creation and New Zealand's future prosperity. As a country, we must ensure we have robust policy in place supporting R&D and emerging start-ups, access to capital at all stages of a business's development, and access to talent to build these businesses into world-leading businesses at the forefront of innovation.

Brandon Capital, through the MRCF, invests in very early-stage technologies and typically, we help to establish the start-up company and invest the first dollar. In addition to capital, Brandon provides hands-on expertise and guidance to support each investee's research, development and commercialisation efforts. As a result of the stage and nature of Brandon's portfolio companies, the significant majority of Brandon's portfolio companies are eligible for, and benefit from, the Australian Federal Government's R&D Tax Incentive Program. The Series A investment of $8m into Kea Therapeutics Ltd, our first investment in New Zealand, is typical of the types and stage of investment we make.

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In short, the MRCF is part of the vanguard of New Zealand innovation, and from this perspective an R&D Tax Incentive is vital for every business in which it invests.

Comments and recommendations on the proposed R&D Tax Incentive

We wish to make the first point that policy stability over the long term is critical, particularly for the biotechnology industry where the development of a drug, vaccine or medical device through to an approved product can take more than 10 years. In our view, frequent changes and revisions to tax and grant programmes have adverse effects on the confidence of businesses and their stakeholders, thereby exerting a detrimental effect on the sector as a whole. Similarly, investors in the sector need to make long-term investment allocation decisions that match the development timelines of these medical technologies. Where investors are already taking on significant technical risk, adverse policy amendments can have a profound effect on investor sentiment.

As is noted in MBIE's R&D Tax Incentive Discussion document, technology and research-intensive start-ups typically spend years in a tax loss position, particularly biotechnology companies. As it currently stands, the R&D Tax Incentive MBIE is looking to implement will provide little value to the R&D-intensive organisations we invest in as these companies are in a tax loss position. We agree with MBIE that a different policy option is required to support these businesses.

The Australian Government's R&DTI has now been in place for 33 years. New Zealand has the opportunity to learn from and adopt the best aspects from this programme and other similar programmes from around the world. The Australian R&DTI provides companies with turnover of less than $20m, with a cash rebate 43.5% for every dollar spend on R&D. While this would appear to be an extremely generous and potentially costly programme, it has attracted significant foreign investment and fostered the creation of new jobs and new companies. It is turbo charging the Australian innovation ecosystem.

As a key stakeholder in New Zealand's life sciences sector, Brandon Capital Partners and the MRCF have the expertise and experience to assist in designing future R&D policy. We would welcome the opportunity to support the design and development of this new policy, drawing on experience in Australia, the ways in which the Australian R&D Tax Incentive's positive impact has been felt, and the ways in which it is shaping the Australian economy for the better.

We would be delighted to discuss these perspectives in greater detail with you.

Yours sincerely,

s 9(2)(a)

[redacted]

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BRANDON CAPITAL
PARTNERS

About Brandon Capital and the MRCF

Brandon Capital Partners Pty Ltd invests in Australia and New Zealand's leading biomedical discoveries, with the aim of developing products that lead to improved patient outcomes, generating superior returns for our Investors. Brandon currently manages five funds raised since 2008, totalling more than AU$530 million.

Brandon Capital manages the Medical Research Commercialisation Fund (MRCF), a unique collaboration of more than 55 of Australia and New Zealand's leading medical research institutes and hospitals, New Zealand Government, Australian Federal Government and the state governments of Victoria, New South Wales, Western Australia, Queensland and South Australia.

To date, the MRCF has funded 36 start-up companies that are developing technologies originating from these institutions, including three drug companies that have achieved significant exits: Fibrotech Therapeutics, acquired by Shire in 2014; Spinifex Pharmaceuticals, acquired by Novartis in 2015; Elastagen, acquired by Allergan 2018, as well as two medical device companies in Osprey Medical and Global Kinetics Corporation, both of which are selling their approved products into global markets. In 2017, Brandon Capital Partners announced the closing of the MRCF BTF fund, an AU$230 million fund, which will continue to support and develop start-up companies from the MRCF network.

For more information about Brandon Capital Partners, visit http://www.brandoncapital.com.au/

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From: s 9(2)(a)
To: RD Incentive
Subject: Research and development tax incentive - submisison feedback
Date: Friday, 1 June 2018 5:00:11 p.m.

R&D tax incentive team
Ministry of Business, Innovation & Employment
PO Box 1473
Wellington 6140
New Zealand

The Government has announced its intention to introduce a Research and development (R&D) tax incentive in 2019 to help more businesses undertake a greater amount of R&D. We believe that the R&D tax incentive proposal as it currently stands will significantly disadvantage our organisation and companies like ours.

Our specific feedback follows.

Best regards,

s 9(2)(a)
Aviat Networks New Zealand Limited.

R & D Tax Incentive Discussion Document

Eligibility

The definition of eligibility will exclude organisations that conduct Research and Development in New Zealand, but register the resulting intellectual property in some other jurisdiction.

Like many international companies Ariat conducts Research and Development in several locations around the world, those locations derive benefit from that investment but may not necessarily be the owners of the resulting intellectual property.

The proposed definition of eligibility will disadvantage our organisation and make it less appealing to conduct Research and Development activities in this country. Considering Aviat New Zealand spends s 9(2)(b)(ii) per year in R&D and product development, employs close to 100 professional staff in full-time roles, provides regular student internships and makes a considerable contribution to the high-tech industry, any reduction in the attractiveness of conducting business in New Zealand will be a disincentive to further investment in this country, a loss to the economy and a loss to the high technology sector.

We would expect that Research and Development spend will be directed to countries that encourage investment in distributed arrangements such as our own.

Aviat Networks New Zealand will be disadvantaged with this arrangement and we believe that there will be other companies in New Zealand that are in the same or similar situation.

Q4 Does the scientific method requirement exclude valid R&D in some sectors, please illustrate with examples?

The inclusion of the scientific method in the definition of validity is of concern. The definition used

within the Callaghan R&D Growth Funding scheme has proven to apply well to our situation and the type of research that our organisation is engaged in. We are of the view that the Frascati material is a much more thorough description of R&D and the inclusion of the term *scientific method* as used in the MBIE discussion paper seems to orientate the definition to the type of work scientific organisations would be involved in.

The type of research that Aviat conducts is directed towards gaining new knowledge and applying that to the practical aims of creating of new and innovative products. The methods, tools and processes that we apply to create our RF and computer networking technology are based on industry and engineering best practice, rather than something we would describe as a purely scientific method.

Q5 What would the impact be on business R&D in New Zealand if a materiality test was applied to both the problem the R&D seeks to resolve and the intended advancement of science or technology?

The ability to apply a materiality test to the intended advancement of science or technology will be much more difficult to determine compared to it's application to a specific problem that the R&D seeks to resolve. In our situation the materiality is relatively easy to determine given we have specific technology problems and associated uncertainties to resolve.

Q9 What is the likely impact on business R&D in New Zealand if dual purpose activities are ineligible for the R&D Tax Incentive?

In our view the likely impact on businesses in New Zealand would be very small. In our particular situation we do not view that there would be any impact if dual purpose activities were ineligible.

Q10 What are the advantages and/or disadvantages of limiting eligible expenditure to R&D labour cost?

The true cost of R&D investment goes well beyond direct labour expense. There would be a significant disadvantage to limiting eligible expenditure to R&D labour cost only. In our situation significant investment is required in materials and overhead costs. In our view the definitions of eligible expenditure used in the Callaghan R&D Growth Grant is a much better reflector of true investment costs.

Q11 What are the advantages and/or disadvantages of setting overhead costs as a percentage of R&D labour costs?

Calculating overhead cost is a fixed percentage of R&D investment is not an accurate way to apportion spend. We believe that it is reasonably straight forward to identify the true proportion of overhead costs and we have certainly been able to do that in our organisation. Specifying a fixed percentage is not an accurate or fair method to use.

Transition Questions

Q3 What impact will the proposed transition arrangements have on your R&D programme over the next few years?

Substantial reduction in funding or zero funding for the last three quarters of the anticipated 2 year extension to R&D Growth Contract. Likely commensurate reduction in staffing numbers and reduction in research activities.

Companies like Aviat that invest significantly in R&D in New Zealand will be disadvantaged under a

tax incentive scheme and will be more likely to look elsewhere with their R&D spend.

#45

COMPLETE

Collector:	Web Link 1 (Web Link)
Started:	Friday, June 01, 2018 4:33:46 PM
Last Modified:	Friday, June 01, 2018 4:49:29 PM
Time Spent:	00:15:42
IP Address:	s 9(2)(a)

Page 2

Q1 (i) For individuals

Respondent skipped this question

Q2 (ii) For organisations

Name of organisation	**Aviat Networks**
Contact person name	s 9(2)(a)
Position	

Q3 (iii) How long has your business been operating in New Zealand?

10 years or more

Q4 (iv) How many employees (FTEs) are employed by your business in New Zealand? Please include full-time and part-time employees but do not include contractors or the business owners.

50 – 99

Q5 (v) What industry sector does your business operate in?

Professional, scientific, & technical

Q6 (vi) Has your organisation ever received a R&D project or R&D growth grant?

R&D Growth Grant	**2016**

Q7 (vii) Has your organisation ever received any other R&D government support?

Yes,
If yes, please specify names of grant(s)/support.:
Callaghan R&D Student Grants

Q8 How likely is it that your organisation will be in a position to use the full amount of an R&D tax credit in the 2019/20 tax year? (Note, to use the full amount of a R&D tax credit in a given year, your business' tax liability needs to be at least as large of the R&D tax credit you are entitled to claim.)

Very unlikely

Q9 How much R&D does your organisation expect to carry out in the coming year?

s 9(2)(b)(ii)

Page 3: Responses to questions in the consultation document

Q10 Q1 What impact will the proposed transition arrangements have on your business? For example, your cash-flow or internal reporting mechanisms? Please describe.

On the assumption that we are successful in gaining an extension to our R&D Growth Fund, the transition will reduce or eliminate any funding we receive. Under a tax incentive arrangement the funding will be significantly less.

Q11 Q2 What do you believe to be a necessary transitional period? Please explain the reasons why this is necessary for your business?

Respondent skipped this question

Q12 Q3 What impact will the proposed transition arrangements have on your R&D programme over the next few years?

s 9(2)(b)(ii)

Q13 Q4 Please provide any other comments about the proposed transition arrangements.

The transition to a tax incentive scheme is a significant disadvantage to companies like Aviat Networks.

Like many international companies Ariat conducts Research and Development in several locations around the world, those locations derive benefit from that investment but may not necessarily be the owners of the resulting intellectual property.

Similarly, international companies that invest primarily in R&D in New Zealand will be disadvantaged under a tax incentive scheme, and will be more likely to look elsewhere.

Q14 Q5 For businesses in tax loss, what impact will the proposed temporary grant have on your business during the transition process? Please describe.

Respondent skipped this question

Fuelling Innovation to Transform our Economy

A Research and Development Tax Incentive for New Zealand

1 June 2018

charteredaccountantsanz.com

CHARTERED ACCOUNTANTS™
AUSTRALIA + NEW ZEALAND

Introduction

R&D tax incentive team
Ministry of Business, Innovation & Employment
By Email

Chartered Accountants Australia and New Zealand (CA ANZ) appreciates the opportunity to provide feedback on the Discussion Paper, "Fuelling Innovation to Transform our Economy – A Research and Development Tax Incentive for New Zealand". CA ANZ would like to make an oral submission in relation to our submission.

Chartered Accountants Australia and New Zealand

We are a professional body of over 117,000 Chartered Accountants around the world. We focus on the education and lifelong learning of our members, and on advocacy and thought leadership in areas of public interest and business.

General Position

In formulating its submissions, CA ANZ takes a best practice, public policy perspective. That is, we endeavour to provide comment on a "what is best for New Zealand" basis.

We recognise Government's legitimate right to set tax policy direction. We comment on those policies, and also make comment on their practical implementation. Our public policy perspective means we endeavour to provide comment free from self-interest or sectorial bias.

Research confirms that in practice the best tax system is one with a broad tax base and low tax rates. Such an approach restricts the conditions that make tax avoidance attractive.

Our guiding principles in formulating this submission are that New Zealand's tax system must not impede New Zealand's international competitiveness; growth of the New Zealand economy; and innovation and entrepreneurship:

- recognising there are judgments and trade-offs, taxes should, as far as possible:
- be simple in their application;
- provide certainty in their application;
- be perceived as broadly fair;
- minimise the costs of compliance and administration;
- minimise distortions to the economic behavior of individuals and businesses;
- utilise businesses' own accounting systems as the data source for calculation;
- align the obligations with the businesses' own cash flows; and
- be imposed at an overall rate which allows adequate retention of investment funds within businesses.

We believe one of the pillars of an effective and efficient tax system is taxpayer certainty. This will increase voluntary compliance, decrease administration costs, and deliver positive economic benefits. Tax legislation must be as clear in its policy intent and application. Further, any identified errors post-enactment should be corrected without delay.

In CA ANZ's view tax legislation should not be retrospective unless it corrects an anomaly to ensure taxpayers pay no more tax than Parliament intended. Retrospective application dates undermine the principle of taxpayer certainty and the Generic Tax Policy Process.

Our Submission and Recommendations

Relevant recommendations are included at the end of each section and are summarised in full in Appendix 1 of our submission. We have broadly addressed the "Questions for Submitters" throughout the document but for ease of reference, have compiled these in Appendix 2.

We are happy to discuss our submission further, and any questions can be addressed to s 9(2)(a)

Yours Sincerely,
s 9(2)(a)

Contents

Design

The Government is committed to increasing the Research and Development (R&D) spend to 2% of gross domestic product over the next 10 years. The discussion document sets out the proposed features of the R&D tax incentive.

The 2008 R&D tax credit rules are the basis of the proposed R&D tax incentive credit. Some changes have been made to take into account New Zealand and international experiences.

How the proposed and 2008 regimes compare:

	2008	Proposed
Tax credit	15%	12.5%
Definition of R&D activity	Accounting standard	OECD's Frascati Manual
Eligible expenditure	Direct and indirect costs	2 alternatives are being considered: 1. Direct labour costs 2. 2008 approach
Commercial consideration	"at risk rule" i.e. bear the financial risk	Strengthen "at risk rule" by excluding R&D expenditure where consideration would be (or expected to be) received
Minimum expenditure	$20,000	$100,000

	2008	Proposed
Maximum expenditure	No cap	$120 million
Internal Software	$3 million cap	To be decided
Transparency	Secrecy provisions applied	Publication of recipients

Recommendation

CA ANZ supports:

- the proposed R&D tax incentive as a policy measure to meet the government's objective of encouraging entities to further invest in research, science and innovation so that measured R&D expenditure is 2% of GDP.

- using the 2008 R&D tax credit rules as the basis for the proposed tax credit;

Eligibility

Entity structure

We agree all entity structures should be eligible to claim the tax incentive. This should include companies, trusts and individuals together with look through structures.

Start-up entity

However, we consider the requirement that an entity must satisfy the tax test of "being in business" is overly restrictive and could be seen as a significant barrier. It is unlikely that start-up entities will satisfy the business test. Research and development activities undertaken by a start-up entity could be classified as preparatory to the commencement of business (the general permission will not be satisfied).

It is also noted that start-up entities will typically be in a tax loss position. This is discussed in more detail below.

Creating the right conditions for innovative start-ups to experiment and thrive should be a policy priority.

To encourage innovation and stimulate the development of ideas we recommend that the legislation specifically provide that start-up entities are eligible.

You will be eligible if you:

- Are located in New Zealand and carrying out R&D in New Zealand
- Satisfy the tax test of being in business (the nature of your activities must amount to a profession, trade, manufacturing or undertaking and there must be an intention to make a profit)
- Are claiming for R&D expenditure that relates to your business or intended business
- Have control over the R&D activities
- Bear the financial risk of the R&D activities
- Effectively own the results of the R&D.

R&D Tax Incentive for New Zealand, Page 14

Recent OECD work has shown that new and young firms contribute disproportionately to job creation across OECD countries. Start-ups may also be more effective in exploiting new technologies and introducing radical innovations, which can help address some of the major policy challenges of our times (e.g. climate change, aging society). Innovative start-ups can also be instrumental in achieving more inclusive societies by promoting social mobility[1].

Existing businesses

We have some concerns around the requirement that the R&D expenditure relate to the entity's business. To qualify as an R&D activity, there is a requirement that the activity is performed for the purposes of acquiring new knowledge or creating new or improved materials, products, devices, processes or services in relation to that business. There is a tension between these two requirements and boundary issues may arise. For example, does the new knowledge or new materials, products, devices, processes or services relate to the entity's existing business?

Taxable activity

To address the problem that an entity must satisfy the tax test of "being in business" we suggest that "taxable activity"[2] may be a more appropriate test. A "taxable activity requires something less than a business. Further, anything done in connection with the beginning of a taxable activity is deemed to be carried out in the course or furtherance of a taxable activity[3].

[1] A portrait of innovative start-ups across countries, Breschi, Lassébie, Menon,OECD Science Technology and Industry Working Papers 2018/02, pg 6
[2] Goods and Services Tax Act 1985 s 2(1)
[3] Goods and Services Tax Act 1985 s 6(2)

Permanent establishment

To ensure consistency with the BEPs measures we recommend the requirement that a business must have a "fixed establishment" in New Zealand be changed to a "permanent establishment".

"One in nine businesses in New Zealand reported performing research and development (R&D) activities in 2017 – the highest rate of R&D performance since 2007. R&D rates increased across all business-size groups and most industry sectors over this time period".

NZ Stats

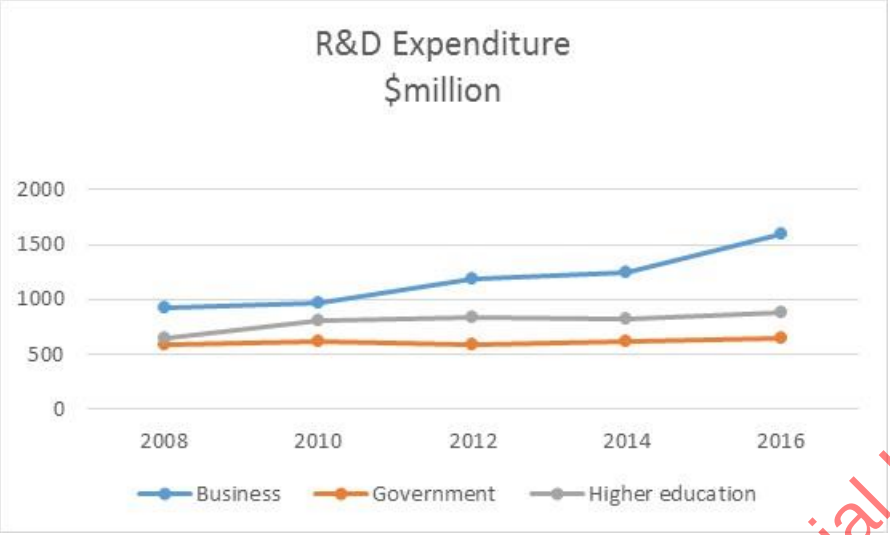
Government entities

We agree it is appropriate to exclude entities, such as Crown Research Institutes, District Health Boards and Tertiary Education Organisations that are funded directly by the Crown, given the objective of R&D tax incentive is to drive business R&D activity and provide an incentive for entreprenuerial R&D. However, R&D collaboration between industry, universities and research organisations is generally considered an important channel for R&D to benefit the wider economy[4].

State owned enterprises (SOEs) operate autonomously from the Crown and are not directly funded. They are required to operate as successful businesses and pay dividends to the Crown. SOEs are some of the largest businesses in New Zealand. Because of the so-called spillover effect, research and development activities carried out by SOEs play an important role in New Zealand's economic growth.

In our view, there is no reason why SOEs should not be eligible to claim the tax incentive. Excluding SOEs could be detrimental to their long term competitiveness and New Zealand's goal of increasing R&D expenditure to 2% of GDP by 2027. As identified in the discussion document, it is the lack of R&D carried out by large companies which is driving New Zealand's low overall business expenditure R&D (BERD) rates.

[4] Review of the R&D Tax Incentive;, Innovation and Science Australia 4 April 2016



Recommendation

- The "business test' be waived for start-up entities. Instead, the business test should be a "taxable activity" test.
- The requirement to have a "fixed establishment" be changed to "permanent establishment."
- An SOE should be eligible.
- R&D collaboration between industry, universities and research organisations should be encouraged.

What qualifies as an R&D activity

It is proposed that R&D will be defined as:

(a) Core activities: those conducted using scientific methods that are performed for the purposes of acquiring new knowledge or creating new or improved materials, products, devices, processes, or services; and that are intended to advance science or technology through the resolution of scientific or technological uncertainty; or

(b) Support activities: those that are wholly or mainly for the purpose of, required for, and integral to, the performing of the activities referred to in (a).

The discussion document acknowledges that the definition of R&D must be clear and robust and as practical as possible. There should be very little ambiguity regarding what R&D activities are eligible. The proposed definition is based on international best practice, guided by OECD's Frascati Manual but amended to take into account past New Zealand and overseas experiences.

The definition of R&D is fundamental. If R&D is defined too broadly, there is a risk that the credit will result in a significant fiscal cost, affecting its long term sustainability. Indeed the 2008/09 R&D tax credit regime was repealed after one year because of concerns around its effectiveness to generate additional R&D and an estimated fiscal cost of $373 million per annum from the 2011/12 income year. One concern is the possibility of abuse, for example when non R&D spending is claimed. Conversely, if R&D is defined too narrowly the desired objective of the proposals may not be achieved.

CA ANZ supports using a definition of R&D based on international best practice and that aligns with the five criteria of identifying R&D as defined in

the OECD's Frascati Manual. This approach is preferable to using a definition based on the New Zealand equivalent to the International Accounting Standard (IAS 38) given many entities are not required to prepare financial statements in accordance with the Accounting Standards. Instead, they prepare financial statements under Inland Revenue's reduced reporting regime.

The proposed activity definitions appear broad enough to capture business R&D in New Zealand, and although we note that the discussion document suggests that the definitions intend to recognise a spectrum of R&D activity it is unclear from this definition that it captures all three types of R&D as defined in the Frascati manual (basic research, applied research and experimental development).

In addition, the definition of support activities which incorporates an 'and' test could significantly restrict the eligibility of business R&D activity as many businesses do not have dedicated resources or facilities available to conduct R&D activity, such that experimentation is often needed to be performed in a commercial environment where there is more than one purpose attributed to the experiment. Refer to further comments below on a 'dual purpose' exclusion.

We also note the proposed definition raises questions, such as, what is meant by "new knowledge?" Is it new to the firm, new to the industry, or new to the world?

Second, how does a person establish whether the R&D they are conducting is "advancing, science or technology through the resolution of scientific or technological uncertainty?" It is also unclear how the application of the 'intended to advance science or technology' test could be applied to certain

industries such as engineering or software development. For example would the development of new functionality through resolving technical unknowns qualify as an advance in technology? As noted in the discussion paper software R&D is important to the economy.

Third, how does the proposed definition incorporate "development" of the new or improved knowledge.

Notably, Frascati defines R&D as:

"Research and experimental development (R&D) comprise creative and systematic work undertaken in order to increase the stock of knowledge – including knowledge of humankind, culture and society – and to devise new applications of available knowledge"[5]

In other words, for an activity to qualify, it must satisfy the five core criteria – novel, creative, uncertain, systematic, transferable and/or reproducible. The requirement that the activity be "systematic" is not included in the proposed definition. By comparison, the 2008 definition incorporated the requirement that the activity be systematic. Claimants had to demonstrate that the R&D process followed a planned, logical progression of work involving hypothesis, experiment, observation and evaluation.

In our view, R&D has to be managed in a systematic way, otherwise it is impossible to know how much real R&D is occurring. The criteria is helpful in excluding non-R&D activities.

[5] Frascati Manual 2015 OECD 2015 pg 44

The definition must be workable and practical to apply. It should not create significant boundary issues or excessive administration/compliance costs.

Recommendation

- The proposed R&D definition be amended to capture all three types of R&D as defined in the Frascati manual (basic research, applied research and experimental development).

- Consideration should be given to ensuring any interpretation difficulties be minimised by including the appropriate definitions in the legislation.

- Specific guidance will be required on the definition used in the core activity, particularly 'intended to advance science or technology'.

Excluded activities

Identifying the boundary between R&D and non R&D activities can be very difficult. The discussion paper identifies specific activities that should be excluded.

Many of the exclusions listed form part of the experimental process as either a core activity or a support activity. For example, 'routine collection of information', 'complying with statutory requirements and standards' and 'quality control of products' are standard in many experimental development activities, such as a clinical trial activity. Applying these exclusions to both core and support activities would severely limit the scope of eligible activity.

Social sciences

We question the blanket exclusion for research in social sciences, arts or humanities.

To be successful new product development must deliver a solution to a real need. For many products those real needs can only be defined by understanding consumers, the market in which they are found and the way that market works. Businesses that are proficient at product development begin their product development cycle by understanding those aspects of the market and they use that understanding to guide their research and product development.

Research in social science, arts or humanities can often provide insights into the behaviours of populations that can lead to the development of improved processes or technologies such as in veterinary science and artificial intelligence (AI). As AI increasingly becomes part of everyday life it is

What's out?

- prospecting, exploring or drilling for minerals, petroleum, natural gas or
- geothermal reserves
- research in social sciences, arts or humanities
- market research, market testing, market development or sales promotion (including consumer surveys)
- quality control or routine testing of materials, products, devices, processes or services
- the making of cosmetic or stylistic changes to materials, products, devices,
- processes or services
- routine collection of information
- commercial, legal and administrative aspects of patenting, licensing or other activities
- activities involved in complying with statutory requirements or standards
- management studies or efficiency surveys
- the reproduction of a commercial product or process by a physical
- examination of an existing system or from plans, blueprints, detailed specifications or publicly available information
- pre-production activities, such as demonstration of commercial viability, tooling-up and trial runs
- dual purpose activities.

essential that designers and researchers assess and understand the effect and impact their AI developments have on social, cultural and political settings. Robot ethics is currently a topic of discussion. For example, how do we ensure that robots will not be misused for criminal activities such as burglary? A robot in your own home could either be reprogrammed by people with criminal intent or they might have their own robots carry out the theft. So, having a home robot connected to the internet will place great demands on security mechanisms to prevent abuse.

Social sciences should therefore not be excluded outright as a support activity.

Dual purpose activities

The R&D tax incentive will only apply to an activity conducted solely for an R&D purpose. In other words, if a business carries out R&D as part of a broader activity, the R&D activity will not qualify.

We are concerned excluding R&D, which is carried out as part of a broader activity, is a major limitation. It will create boundary issues, impact on the effectiveness and ease of application of the regime. Most, if not all, business R&D is undertaken for more than one purpose, namely for the commercial reasons of making a profit. Unless there is a commercial benefit it is pointless creating a new product or process. Recent Australian case law on the meaning of 'the purpose' of conducting R&D accepted that there can be more than one purpose for conducting R&D activity[6].

A dual purpose activity exclusion to prevent 'business as usual' expenditure inclusion could severely limit the extent of activity that could access the regime. This is easily demonstrated through an analysis of several examples of business R&D used as guidance by the Department of Industry, Innovation and Science with the Australian Tax Incentive. A prime business R&D example is 'baking stuff' in which the company used production line equipment to test whether the microencapsulated fish oil ingredient impacted

[6] JLSP v Innovation Australia 2016 ATC ¶1-079

on the mechanical mixing of the dough since this could not be accurately tested on a bench scale. It then used the production ovens and vehicles to test the baking and transportation of the experimental bread along with non-experimental batches. A dual purpose activity exclusion would essentially exclude most of this project from a claim and would not likely meet the proposed $100K expenditure threshold for eligibility.

We appreciate the concern that R&D claims may include expenditure that would have been undertaken to operate the business, hence the R&D claim is for normal operating expenditure, for example when the manufacturing process operates both to produce widgets and for the R&D project. This will however be a critical aspect of many R&D projects. We recommend that if dual expenditure is excluded, it should not be for any additional costs that are incurred in relation to the R&D project.

We strongly recommend the removal of dual purpose activities from the exclusion list. Application of this exclusion to either core or support activities would severely restrict the scope of eligible R&D activity.

Recommendation

- Research in social sciences, arts or humanities should not be completely excluded from the R&D tax incentive.
- Market research at the beginning of a research and development project should qualify.
- Activities that are carried out for both an R&D purpose and a non R&D purpose should not be excluded.
- Pre-production activities should be included as they are a vital component of the development.

Overseas R&D

Where an R&D project is based in New Zealand up to 10% of the eligible expenditure can be for overseas R&D costs if at least half the R&D expenditure within a project is for activities carried out in New Zealand.

The suggested 10% limitation does not reflect the fact that New Zealand businesses may need to go abroad to obtain the required expertise.

Practically, it will be difficult to determine whether the 10% and 50% thresholds are exceeded until the conclusion of the project where an R&D project is carried out over one tax year or more, which is generally the case.

"The suggested 10% limitation does not reflect the fact that NZ businesses may need to go abroad to obtain the required expertise"

Recommendation

The 10% limitation should not apply.

Eligible expenditure

Two possible approaches for determining eligible R&D expenditure are being considered. Eligible expenditure under:

Option 1: would be limited to direct R&D labour costs;

Option 2: would be based on the 2008 regime and include direct and indirect costs. Two alternatives are being considered for allocating overhead costs: One, apportion overhead costs when they are incurred partly for R&D activities. Two, overhead costs are calculated as a set percentage of the direct R&D labour costs.

Direct R&D labour costs

Limiting expenditure to only R&D labour would favour certain industries over others. For example, software industries tend to have a high labour component, whereas manufacturers and agribusiness have a low labour component and high operational costs including the costs attributed to producing tangible products (as opposed to intangible products in software). Furthermore, some of New Zealand's greatest innovators (Britten motorcycles, Martin Jetpack, Hamilton Jet Unit) would have started their business with considerable prototype expenses and little salary. A credit based solely on direct R&D labour costs would not provide an incentive for these types of businesses in the early years of development.

We recommend an industry agnostic approach.

Overhead costs

Most organisations when preparing management accounts use full absorption costing methods to allocate overheads. If overhead costs are allocated as a percentage of R&D labour costs this may distort the true cost of R&D. It could mean that certain industries obtain favourable treatment under the R&D tax credit regime. We note that the Canadian R&D tax credit offers the capability of claimants to opt in to use a proxy amount. Providing an option to elect in could save on some administrative burden.

Commercial consideration

It is proposed to exclude expenditure that relates to R&D activities for which the entity conducting the activity has received or could reasonably be expected to receive consideration.

We consider that to achieve the Government's ultimate objective of growing our economy R&D must be carried out with the intention to commercialise the innovation or must be carried out alongside existing business processes to find new or improved products or processes.

We are concerned that the tax incentive will not be available to many entities because as a general rule commercialisation will occur at the same time as the R&D. Commercialisation is a crucial part of successful innovation.

We agree the exclusion should apply to R&D conducted under a contract where there is certainty around reimbursement of expenditure on the activities irrespective of outcomes.

Software

The discussion document acknowledges that software R&D has become increasingly important in our economy and there may be a need to vary the standard definition of eligible expenditure to adequately capture software R&D.

In most countries a large proportion of R&D projects are related to software. The R&D definition is therefore important to ensure software development is not excluded.

The Ministers' noted *"...R&D provides for the diversification of the economy by encouraging new industries and companies, new jobs and new ways of doing business....Increasing R&D support is part of how we'll help Kiwi firms to move further up the value chain and deliver higher wages. ..."*

Software development will be a key part of achieving the Government's objectives. Software R&D is the changing of a process as opposed to looking/changing/improving the underlying software code. This is commonly called innovation in software. In this regard we believe the Government should simply provide clear rules (whether part of the definition or otherwise) when software development whould be eligible for the R&D tax credit.

As noted above, we believe clear rules should be considered as part of designing what software activity qualifies for an R&D tax credit. In this regard we believe, eligible software R&D should include:

- Developing/adapting software for a product (or service) that has not been previously developed;

"Computer services and machinery manufacturing firms led the way in an almost 30 percent lift in business spending on research and development (R&D) in 2016, Stats NZ said today. Businesses spent $1.6 billion on R&D in 2016, up $356 million (29 percent) from 2014.

The computer services sector had the biggest dollar-value increase in R&D within the business sector, up $125 million (40 percent) to $436 million in 2016. Computer services firms include New Zealand businesses providing services such as producing and distributing software, and web design".

Stats NZ - Business research and development up 29 percent to $1.6 billion

- Designing and developing new features that are not currently available;

- Redesigning/redeveloping existing software so that it was more workability or capability so that the software is more efficient and productive.

It is also critical that post designing clear rules when software R&D qualifies for the R&D credit there should be no constraint whether the software is for internal or external use. Software is a critical part of assisting New Zealand firms to move up the value chain, create higher paying wages, encouraging new industries and new ways of doing business.

Continuity

The continuity rules limit the carry forward of losses and imputation credits where there has been significant changes in shareholding. The discussion document questions whether continuity should be imposed on tax credits that are carried forward.

The continuity rules for the carry forward of R&D tax credits should be relaxed to cater for start-ups and loss making ventures where angel investors are required to bridge the gap between the initial capital provided by business founders and structured capital required to develop and commercialise the idea/product.

This could be achieved by having a same business test or relaxing the continuity rules for the R&D tax credit.

Recommendation

- Eligible expenditure include direct and indirect costs.
- R&D expenditure should not be excluded simply because commercialisation of the R&D is occurring at the same time.
- Simple clear rules (whether part of the definition or otherwise) should be provided as to when software development should be eligible for the R&D tax credit.
- The continuity rules for the carry forward of R&D tax credits should be relaxed.

Minimum threshold

To qualify for the tax incentive a business will need to spend a minimum of $100,000 on eligible expenditure within one year.

While we understand the rationale for setting a minimum threshold to avoid disproportionate administration and compliance costs we are very concerned that a $100,000 spend will create a significant barrier for small-medium enterprises to access this tax incentive. We do not agree that a $100,000 threshold is necessary to filter out claims that are not likely to be genuine R&D. If R&D is correctly defined, the definition should filter genuine R&D projects.

The design of this regime is a credit that reduces income tax otherwise payable. Obviously, when a taxpayer claims a deduction for expenditure they obtain a maximum tax credit of 28% (or 33% if an individual assuming no abatement of social policy measures). There is no threshold that for this tax credit to be claimed, the taxpayer needs to have incurred $100,000 of expenditure. With a tax credit of only 12.5%, we do not believe there has to be such high levels of a minimal threshold.

Further, with such a high minimum threshold, this effectively means many SMEs cannot claim the R&D tax credit. We believe this is bad policy design. More specifically, it should be available to all taxpayers and not just large corporates.

By way of comparison, the minimum threshold under the Australian R&D tax credit regime is set at $20,000.

The 2008 R&D tax credit minimum threshold was also set at $20,000.

Recommendation

- The minimum threshold be lowered to $20,000.

Business in tax loss

The proposed R&D tax credit will be non-refundable although businesses will be able to carry their tax credit forward to a future income year.

The Government acknowledges that R&D intensive businesses will generally be in a tax loss position in their early years and a tax credit is of limited use. It intends to incorporate additional features into the R&D tax incentive from 1 April 2020 to support businesses in a tax loss position.

Although the existing R&D regime (cash out of losses) supports innovative start-up businesses that are in a loss making position it still requires them to fund the R&D expenditure in the first instance. Therefore the existing regime is of limited value to start-up businesses that do not have access to finance to fund the R&D expenditure.

It is noted that a 2016 review of Ireland's R&D tax credit did not find evidence that the tax credit scheme is effective in encouraging R&D in younger firms.[9]

Recommendation

- When considering Government's objective to increase R&D consideration should be given to using other policy tools, such as an R&D grant, to support start-up businesses.
- The R&D tax credit should be available to loss making entities.

[9] Economic Evaluation of the R&D Tax Credit; Department of Finance; October 2016 pg 55

Innovative partnerships

The Innovative Partnerships programme, led by the Ministry of Business, Innovation and Employment, engages with innovative companies that are pushing the boundaries of technology and solving the world's big problems, and promotes the compelling advantages of working in New Zealand.

These companies are then connected with the right people, businesses, agencies, research organisations and universities, as well as supported through navigating central and local governments.

Research indicates there has been increased internationalisation of R&D as countries develop technical resources and entities operate in global markets. Further, tax incentives play a role in determining the location of business R&D.[10]

It follows that the introduction of a well-designed R&D tax incentive may be instrumental in attracting international firms to undertake research and develop their product in New Zealand. However, in our view the R&D tax credit will need to be competitive with R&D regimes in other countries.

[10] The Internationalisation of UK R&D, Bloom and Griffith

By way of comparison, in Australia entities engaged in R&D may be eligible for:

- a 43.5% refundable tax offset. This applies to eligible entities with an aggregated turnover of less than $20 million per annum, provided they are not controlled by income tax exempt entities; or
- a 38.5% non-refundable tax offset. This applies to all other eligible entities (entities may be able to carry forward unused offset amounts to future income years).
- The rate of the R&D tax offset is reduced to the company tax rate for that portion of an entity's notional R&D deductions that exceed $100 million for an income year. This change applies to assessments for income years starting on or after 1 July 2014 and before 1 July 2024.

Recommendation

- Further analysis should be undertaken to establish how competitive a 12.5% tax credit will be.

Maximum threshold

To manage the risk of the R&D tax incentive being exploited it has been recommended that eligible expenditure be capped at $120 million.

To provide an incentive for large R&D performers to increase their R&D spend and attract large international R&D intensive firms to New Zealand, two possible options are being considered:

1. have a Ministerial discretion to waive the cap for genuine claims; or
2. to require pre-registration for large claims.

Recommendation

- A cap of $120 million on eligible expenditure be adopted.
- Large claims should be subject to a pre-registration process. This provides taxpayers with certainty.

Evaluation and Transparency

To ensure the ongoing value and long term sustainability of the R&D scheme the Government proposes it is reviewed within four years of commencement. The Government is also committed to monitoring the scheme in the short term to identify and remedy issues that could compromise the integrity of the scheme.

It is proposed that transparency and evaluation would be enhanced by:

- publishing the names of recipients and the amounts of R&D support (expressed in bands rather than the exact amount) they have received. It is proposed this data would be published with a two-year lag to protect commercially sensitive information.
- making taxpayer-specific information in relation to R&D Tax Incentive claims available to Treasury, Callaghan Innovation and MBIE officials to support evaluation and policy development.
- integrating claim information into Stats NZ's Longitudinal Business Database (LBD). The data would also be integrated with the National Research Information System (NRIS).

Recommendation

- The proposal to review the scheme within four years of commencement should be adopted.

- The proposal to publish the names of the recipients should not be adopted.

Penalties

In addition to the standard penalties provision in the Tax Administration Act 1994, Officials are considering whether to include a promoter penalty. The promoter penalty would apply where a tax advisor has, or would have, received a direct financial benefit from an R&D claim (in the form of a contingency fee) and the R&D tax credit application demonstrates a serious offence.

Penalties play an important role in influencing taxpayer behaviour. The risks around taxpayer behaviour in respect of R&D tax incentives is highlighted in the 2016 Australian review of their R&D tax regime. A statement released by the Hon Scott Morrison, Treasurer, indicates that their R&D tax incentive has been abused by some claimants who "engaged in behaviour such as incorrect self-assessment of eligible R&D activities, exaggerating their expenditure claims, 'pushing the boundaries' of the interpretation of the R&D definition and engaging in other forms of non-compliance[11]."

Contingency fees

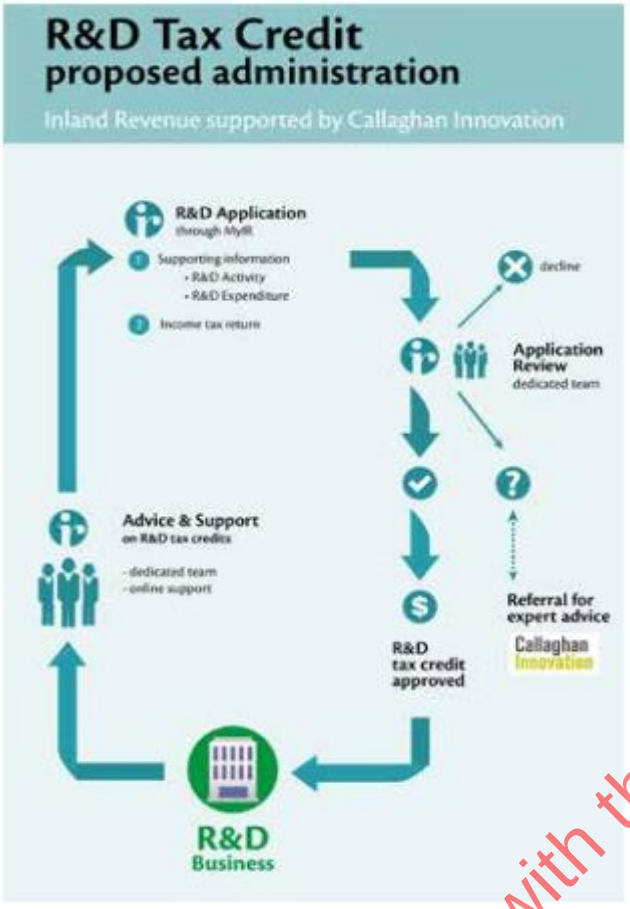
Tax advisors are sometimes paid on a contingency basis to recover costs. This can occur where it is difficult for an advisor to recover the time involved in quantifying the amount of eligible expenditure in a R&D claim. Accordingly this should be considered in the context of any integrity approach

11 https://www.budget.gov.au/2018-19/content/factsheets/6-tax-integrity.html

Recommendation

Penalties should only apply to advisors that are found to deliberately assist taxpayers to inflate R&D claims.

Administration



The objective of the R&D tax incentive is to grow New Zealand's R&D expenditure to 2% of GDP over 10 years. This should result in new industries and companies, new jobs and new ways of doing business creating a more diverse economy.

To achieve this objective, and entice businesses to increase the amount of R&D that they currently undertake, it is essential that the administration rules and practices are clear, understandable and user friendly. Compliance costs must be kept at a minimum for both business and Inland Revenue.

INITIAL FEATURES OF THE CLAIM PROCESS

- Applications will only be made through Inland Revenue's e-services (MyIR) – there will
- be no paper application process
- Customers being set up within MyIR as a R&D business
- A range of guidance and education material including online tools) to assist claimants
- Submitting supporting information that details the R&D activity and expenditure, including ability to upload attachments. This is required to determine that the R&D activity is eligible, including information on the hypothesis the business is seeking to address through the R&D.
- Submitting other information such as whether the business has used an external advisor and any contingency fees.

We appreciate there is a need to strike the right balance between low compliance costs and the prevention of abuse and exploitation through the recharacterisation of expenditure.

Recommendation

- The application and tax return process should be user friendly and as simple as possible.

- Inland Revenue should be adequately resourced with trained specialists to assist taxpayers with an R&D application and the processing of R&D claims.

Transition from Growth Grants

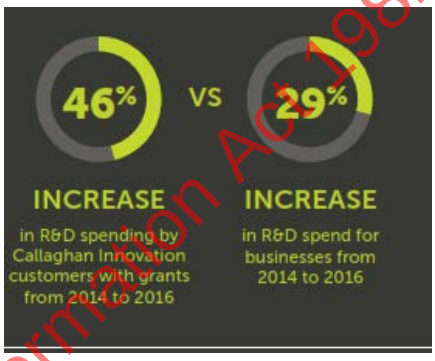
Very broadly, active Callaghan Growth grants:

will end on 31 March 2020; or

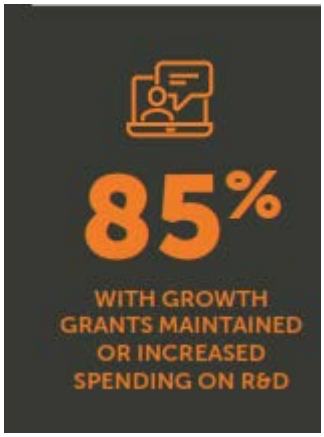
1. recipients can choose to end their contract early and transition onto the tax incentive from 1 April 2019;

2. will be closed to new applicants and extensions from 31 March 2019;

3. will have a one year overlap between ending and the introduction of the R&D tax credit. This is to allow recipients adequate time to adapt their systems and funding arrangements in preparation for the R&D tax incentive.



The Government intends introducing an R&D programme from 1 April 2020 to support businesses who are in a tax loss or have insufficient taxable income to use their tax credit. In the interim, for those businesses with an active Growth Fund, it proposes to implement a temporary grant scheme on the same terms as the R&D tax incentive (i.e. a rate of 12.5% and use the same eligibility requirements). The temporary scheme will be administered by Callaghan Innovation with support from Inland Revenue.



We are concerned that the cancellation of the Callaghan growth grants will have a negative impact for many of New Zealand's most innovative technology-focused companies. Currently these companies receive a grant for 20% of their R&D expenditure. Under the proposed R&D tax incentive they will now receive a tax credit for 12.5% of their R&D expenditure.

Recommendation

- The abolition of the Callaghan growth grant scheme should be reconsidered. The Callaghan growth grant scheme could be varied and used as another policy tool to help Government achieve its objective of growing R&D expenditure.

Appendix 1

Summary of Key Recommendations

Design	CA ANZ supports using a modified version of the 2008 tax credit rules as the basis for the proposed tax credit.
Eligibility	The business test should be waived for start-up businesses. Instead, the business test should be replaced with a "taxable activity" test.
	The requirement to have a "fixed establishment" should be changed to "permanent establishment.
	An SOE should be eligible.
	R&D collaboration between industry, universities and research organisations should be encouraged.
R&D activity	The proposed R&D definition should be amended to capture all three types of R&D as defined in the Frascati manual (basic research, applied research and experimental development.
	Consideration should be given to ensuring any interpretation difficulties be minimised by including the appropriate definitions in the legislation. For example, "new knowledge".
	Specific guidance will be required around the definition used in the core activity, particularly "intended to advance science or technology.
Excluded activities	Research in social sciences, arts or humanities should not be excluded.

	Market research at the beginning of an R&D project should qualify.
	Activities that are carried out for both an R&D purpose and a non R&D purpose should not be excluded.
	Pre-production activities should be included as they are a vital component of the development.
Overseas R&D	CA ANZ recommends that the 10% limitation should not apply.
Eligible expenditure	Eligible expenditure should include direct and indirect costs.
	R&D expenditure should not be excluded simply because commercialization is occurring at the same time.
	Simple clear rules (whether part of the definition or otherwise) should be provided as to when software development is eligible for the R&D tax credit.
	The continuity rules for the carry forward of R&D tax credits should be relaxed.
Minimum threshold	CA ANZ does not support a $100,000 minimum threshold. It should be lowered to $20,000.
Business in tax loss	To meet Government's objective of increasing R&D and to support start-up businesses other policy tools, such as an R&D grant, should be considered.

	The R&D tax credit should be available to loss making entities.
Innovative partnerships	CA ANZ is of the view that to attract international firms further analysis must be undertaken to establish how competitive a 12.5% tax credit will be.
Maximum threshold	CA ANZ supports adopting a cap for eligible expenditure of $120 million.
	Large claims should be subject to a pre-registration process. This provides taxpayers with certainty.
Evaluation and Transparency	The proposal to review the scheme within 4 years of commencement should be adopted.
	The proposal to publish the names of the recipients should not be adopted.
Penalties	Penalties should only apply to advisors that are found to deliberately assist taxpayers to inflate R&D claims.
Administration	The application and tax return process should be user friendly and as simple as possible.
	Inland Revenue should be adequately resourced with trained specialists to assist taxpayers with an R&D application and the processing of R&D claims.

Transition from growth grants	The abolition of the Callaghan growth grant scheme should be reconsidered. The terms could be varied and used as another policy tool.

Appendix 2

Summary of discussion questions

Design	1, If SOEs, Crown Research Institutes, District Health Boards, Tertiary Institutions, and their subsidies are excluded from the tax incentive, what will the likely impact be on business R&D in New Zealand?	CA ANZ agrees that to drive business R&D activity and provide an incentive for entrepreneurial R&D, entities directly funded by the Crown should be excluded. However, measures should ensure there is an incentive for collaboration between industry and research organisations. Further, excluding SOE's from the R&D tax incentive could be detrimental to their long term competitiveness and achieving New Zealand's goal of increasing R&D expenditure to 2% of GDP by 2027.
R&D Activity	2. How well does this definition apply to business R&D carried out in New Zealand?	It is not clear the definition adequately captures 'experimental development" which is the largest component of R&D activity in New Zealand.
	3. Does this definition exclude R&D that you think should be eligible, please illustrate with examples	The definition excludes social sciences and software. A large proportion of New Zealand R&D will include significant elements of social science analysis and software.
	4. Does the scientific method requirement exclude valid R&D in some sectors, please illustrate with examples?	The scientific method requirement is one of the key criteria identified in the Frascati manual and should help identify R&D activities from routine 'trial and error' type activities that are not planned or experimental.
	5.What would the impact be on business R&D in New Zealand if a materiality test was applied to both the problem the R&D seeks to resolve and the intended advancement of science or technology?	A materiality test could be overly complex, subjective and difficult to implement given the wide array of sectors with which business R&D could reside in. For example, how does one distinguish between the materiality of a software project from an agribusiness project, or for a project that would benefit the general population versus one for a minority? A materiality would likely favour certain industries over others and may prevent an innovator embarking upon a project

		that could result in multiple benefits for multiple industries. Many of our greatest inventions today such as penicillin and teflon arose as a consequence of research into other substances.
	6.Support activities - How well does this definition apply to business R&D carried out in New Zealand?	Most R&D projects would involve supporting activities that are either wholly or mainly for the purpose of, required for, or integral to the performing of core R&D activities. However, the definition reads as an 'and' test which means all three elements must be satisfied. This would substantially limit any supporting activities that have more than one purpose.
Excluded activities	7.Are there any reasons why the exclusions should not apply to support as well as core activities? Please describe.	Many of the exclusions listed form part of the experimental process as either a core activity or a support activity. For example, 'routine collection of information', 'complying with statutory requirements and standards' and 'quality control of products' are standard in many experimental development activities, such as a clinical trial activity. Applying these exclusions to both core and support activities would severely limit the scope of eligible activity. We strongly recommend the removal of dual purpose activities from the exclusion list. Application of this exclusion to either core or support activities would severely restrict the scope of eligible R&D activity.
	8.Please provide any examples where social science research is/has been a core part of business R&D in New Zealand?	Research in social science, arts or humanities can often provide insights into the behaviours of populations that can lead to the development of improved processes or technologies such as in veterinary science or artificial intelligence (AI) As AI increasingly becomes part of everyday life it is essential that designers and researchers assess and understand the effect their AI developments have on social, cultural and political settings. It should therefore not be excluded as a support activity
	9.What is the likely impact on business R&D in New Zealand if dual purpose	In our view, it may be difficult to drive faster growth of business R&D if dual purposed activities are ineligible for the R&D tax incentive.

	activities are ineligible for the R&D Tax Incentive?	
Eligible expenditure	10.What are the advantages and/or disadvantages of limiting eligible expenditure to R&D labour costs?	If eligible expenditure is limited solely to R&D labour costs this will favour certain industries over others, such as software which is labour intensive, whereas manufacturers and agribusinesses traditionally have a lower labour component. Further, it will distort the real cost of R&D and may disincentivise businesses from undertaking R&D activities.
	11.What are the advantages and/or disadvantages of setting overhead costs as a percentage of R&D labour costs?	As per our answer to question 10 above, this will favour certain industries over others and potentially distort the true cost of R&D expenditure.
Commercial consideration	12.Are there any reasons why expenditure related to R&D activities for which commercial consideration is received should be eligible for a tax incentive? Please describe.	Commercialisation is an important part of successful innovation. R&D should be carried out with the intention to commercialise the innovation or must be carried out alongside existing business process to find new or improved products or processes. apply to R&D conducted under a contract where there is certainty around reimbursement of expenditure on the activities irrespective of outcomes.
Software	13.What variations or extensions to the definition of core activities are required to ensure it adequately captures R&D software activities?	Simple clear rules (whether part of the definition or otherwise) should be provided as to when software development should be eligible for the R&D tax credit.

Timing	14.Are there reasons why continuity rules should not apply to tax credits? Please describe.	The continuity rules should be relaxed to cater for start-ups and loss making ventures where angel investors are required to bridge the gap between the initial cap provided by business founders and structured capital required to develop and commercialise the idea/product.
Minimum	Is the minimum threshold set at the right level? If 'no' please provide further details.	No. The discussion document assumes that innovative start-up entities conducting R&D will employ at least one full-time employee. This is simply not the case. Often innovators are not remunerated because the entity does not have the funds to finance a salary. Any available funds/finance is used for other expenditure which may not exceed $100,000 p.a. This could also limit access for those entities that commence their R&D program late in the financial year.

Maximum	16. How important is a cap or a mechanism to go beyond the cap? Please provide further details.	We believe a cap is a sound response to improve the integrity of the tax incentive and will help manage the risk of the R&D tax incentive being exploited. However, to incentivise spending above the cap, pre-registration should be required.
	17. What features of a Ministerial discretion or pre-registration would make them most effective?	Pre-registration that is straightforward, simple and binding so that it providers businesses with certainty that an R&D claim will not be rejected at a later stage.
Transparency	18. What are your views on the proposed mechanisms to promote transparency and enhance evaluation?	The proposal to publish the names of the recipients is not acceptable. Recipients of other tax credits do not have their names published, such as donation tax credits, working for families tax credits. It may also lead to unnecessary competition and artificial inflation of claims to try and match a competitor. However, specific projects (high level 'success story' descriptions) could be published if agreed to by the taxpayer to act as guidance. We note the jurisdictions where such an approach has been taken (Scandinavia) have a high proportion of government agencies undertaking R&D.
	19. Are there any other risks that need to be managed? Please describe.	We note the current definition of eligible expenditure includes materials incorporated into plant. This could provide an unintentional benefit for large scale capital projects. We also note that ineligible expenditure refers to the cost of feedstock other than the net cost. Whilst we understand the rationale behind the approach the legislation should be carefully drafted in respect of materials consumed or processed in R&D activities. The exclusion of the cost of acquiring intangible assets would prevent the purchase of software from a claim.
	20. What are the risks with making external advisors liable in this way?	We agree that penalties should be apply to advisors that are found to deliberately assist taxpayers to inflate R&D

Certainty	21. What is the right level of information required to support a claim?	A schedule that includes the amount and classification of the R&D expenditure supporting the claim. The amount of information may vary depending on the size, type and complexity of the business.
	What opportunities are there for customers to submit R&D Tax Incentive claims via third party software?	We believe there are opportunities for third party software to be developed in this area.
	What integrity measures do you think Inland Revenue should use?	IRD needs to balance Government's intention to provide an incentive for R&D expenditure and their integrity measures. This balance needs to befitting of an incentive program not that of a fraud investigation. .

NZVCA
NEW ZEALAND PRIVATE EQUITY &
VENTURE CAPITAL ASSOCIATION INC

Submission

By

New Zealand Private Equity and Venture Capital Association

On the

R&D Tax Incentive

31 May 2018

Contact details:

The NZVCA would be happy to discuss the issues raised in this paper.

To engage further, please contact Colin McKinnon, Executive Director on 09 302 5218 or email colin.mckinnon@nzvca.co.nz.

INTRODUCTION

The New Zealand Private Equity and Venture Capital Association ("NZVCA") welcomes the opportunity to comment on the proposed Research and Development Tax Incentive.

However, it is first useful to provide the context and principle behind which this submission is made. At its simplest level, the NZVCA is here to support:

> ***the availability of capital, both monetary and human, to New Zealand's growing businesses, to encourage confidence and increase investment.***

BACKGROUND

Private capital is essential to the growth of New Zealand businesses both at the start-up phase and as businesses mature. The primary engines of growth in developed economies involve innovation and its successful commercialisation. Creating a positive regulatory and tax environment for private markets, especially in respect of early stage companies is critically important for the future of the New Zealand economy.

Growth capital is important for growing and financing NZ's physical capital and also for developing our human capital. Investment in NZ businesses and innovation provides opportunities for development of knowledge and skills for our people, particularly in emerging technologies and new industries.

Barriers to capital flows have a disproportionate effect on growth companies, which are often unable to raise capital by other means and rely heavily on domestic and foreign private capital investment. The availability and accessibility of investment capital is vital to the expansion of innovation and technology in the New Zealand economy.

As well as the importance of capital availability and accessibility, New Zealand's tax system should also take a considered and consistent approach across the entire investment life-cycle. Tax should not artificially increase the cost of capital throughout the term of an investment or distort investment or reinvestment decisions by acting as a barrier to innovation and technology.

When evaluating our tax system, we should have regard for many aspects that are currently fit for purpose. But the evaluation of our tax system cannot occur in a vacuum. Our tax system needs to be fit for purpose for New Zealand but also be competitive by international standards. The NZVCA is dedicated to improving private investment and increasing the openness to and availability of growth capital in the New Zealand market. We believe that tax should not distort or be a primary driver of investment choices, particularly in areas where new capital and expertise from investors are often the key driver of business growth. Our tax system needs to be structured to ensure that incentives to invest in New Zealand are correctly aligned which brings benefits for all aspects of NZ's capital – physical, human, cultural and natural capital.

SUBMISSION

Recommendation: New Zealand needs further tax incentives to invest in research and development

By international standards, investment in research and development ("R&D") in New Zealand is low. Investment in R&D represents a significant capital risk as costs are often high and there is no guarantee of a profitable return. Even where R&D is successful, there is often a significant delay – sometimes 5 to 10 years between the investment of capital and any profitable returns. New Zealand's tax regime provides some preferential treatment for R&D companies but this does not extend far enough. From an international perspective, our tax regime provides considerably fewer incentives to carry out R&D in New Zealand.

The NZVCA believes that a system which incorporates both R&D tax credits and grant systems such as the Callaghan grants is necessary to encourage R&D investment. Two systems are beneficial because different companies have different constraints in place – for example Callaghan grants provide capital up-front which many companies may need, but they also require a certain level of specificity of the type of R&D undertaken and its' objectives which may be unsuitable in certain other situations. In those situations, a tax credit may be more appropriate.

The NZVCA welcomes the current Government's announcement of its intention to introduce a R&D tax incentive in 2019 to help more businesses undertake a greater amount of R&D. The proposed incentive (discussion document released 19 April 2018) is a 12.5% tax credit on eligible business R&D expenditure occurring in NZ from 1 April 2019.

We are disappointed to see that the proposed credit is non-refundable meaning that its use will be extremely limited.

To summarise our views on R&D incentives as they currently stand, the NZVCA believes that R&D rules are unnecessarily complex and impose onerous obligations on companies, particularly those that most need the capital but are least likely to have the formal procedures and documentation in place for the likes of Callaghan grants. This further discourages companies from engaging in R&D in New Zealand over other comparable jurisdictions.

Furthermore, unless such an R&D regime can provide for timely credits and cash refunds, the long potential delays from the time of incurring such expenditure until such refunds are actually obtained means the intended benefit is far too late in many instances. The NZVCA welcomes the introduction of a new research and development tax credit but believes that the system will be fundamentally flawed if the tax credit is not refundable in a timely manner.

Science New Zealand

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Submission to the Ministry of Business, Innovation and Employment, Inland Revenue and Callaghan Innovation

Re:

Fuelling Innovation to Transform our Economy: A Discussion Paper on Research & Development Tax Incentive for New Zealand (April 2018, MBIE and IR)

1 June 2018

Contact:
s 9(2)(a) [redacted]

Science New Zealand and Crown Research Institutes

Science New Zealand Inc is the peak body for the seven Crown Research Institutes, and this submission is made on their behalf. Some CRIs will make additional submissions, providing further material or greater detail.

A CRI is a Crown-owned company. The Ministers of Science & Innovation and Finance are the shareholding ministers. Ministers appoint the Board directors. It is the Board alone which is accountable under the following principal Acts: the Crown Research Institutes Act 1992, the Companies Act, the State Sector Act and the Crown Entities Act.

The CRI Act requires that a CRI conducts research to benefit New Zealand, promote and facilitate the application of the results of research and technological developments, and operate in a financially responsible manner so as to maintain its financial viability.

Importantly, a CRI is not a profit-maximiser as is an SOE, nor funded from Government as is a Crown Agency. A CRI must deliver on its public good mission whilst generating sufficient earnings to maintain its human and other resources for the long term, and to invest into research that has a public good drive in advance of the interests of the commercial sector. This includes leveraging its retained earnings to co-fund activity with local and central government and commercial partners so as to amplify the impact of its science and technological research.

Often the co-funding from the CRI attracts business to undertake or commission research which it would otherwise not, and thus improves New Zealand's overall R&D expenditure and the engagement of business with research.

Science New Zealand acknowledges that the Government has committed to implementing an R&D Tax Incentive, and to offsetting this via changes to the Callaghan Innovation-hosted Growth Grants. This submission is in response to the discussion paper which asks for views on how best to implement the tax incentive.

The CRIs have two-thirds of the nation's public sector science researchers (on an FTE basis) excluding health and ICT, which are predominantly found at universities. Successive Statistics NZ R&D surveys confirm that two of every three dollars commissioned by businesses for research from public sector providers is contracted with CRIs. The CRIs, with 50 locations across the country, are significant employers in regional New Zealand and engage with multiple classes of private sector organisations such as Māori entities, not-for-profits, businesses (existing and start-up in traditional and new economy sectors) and industry groups.

In the financial year ending 30 June 2017, CRIs had $715 million in revenues. This came from three sources of about equal weight overall, although the split varies from CRI to CRI. They are: i) the Strategic Science Investment Fund (SSIF), a mechanism used by the Crown to purchase capability platforms (human and infrastructure) from research providers including CRIs; ii) contestable funding from the Crown, such as the Endeavour Fund or National Science Challenge contest; and iii) commercially bid contracts from local and central government and the private sector. All of this funding is to deliver on project or programme goals that are set in agreement with the various funders.

The CRIs are obliged by their Act to derive a margin from their activities. Retained earnings enable CRIs to enter leveraged or co-funding arrangements, and to explore new areas of benefit to New Zealand consistent with the Statement of Core Purpose the Crown has written specific to each CRI. As Crown-owned companies, CRIs report on revenue sources to the shareholding Ministers via MBIE. Ministers and officials pay close attention to use of retained earnings, and encourage CRIs to re-invest into research capability, capital investment, research programmes, and to engage with end users to advance New Zealand's wealth and well-being.

Unlike privately-owned or listed companies, where equity growth or dividends are the primary concern of the business and its shareholders, CRIs have financial viability as a means to an end: research that benefits New Zealand.

Government's policy objectives

The Science New Zealand submission is shaped by the CRIs asking how they may best contribute to the Government's policy objective: to increase R&D expenditure to 2 per cent of GDP over ten years.

The R&D Tax incentive is to help achieve that objective by:

i) sustained increases in government investment in research, science & investment in a way that can make a real and noticeable difference; and

ii) increasing the contribution from the private sector, assisting and encouraging businesses of all sizes and scales to undertake R&D.

The discussion paper indicates that the tax incentive will allow firms to decide what R&D they should do, be a simple process and open access to those who have struggled to access support.

Key Points

i) CRIs should be eligible for the Tax Incentive when they invest their own funds in R&D.

Crown Research Institutes are Crown-owned companies and have a statutory obligation to hold retained earnings from their activity.

All their R&D activity meets the definition for R&D eligibility for the Incentive:

- Conducted using scientific methods
- Performed for the purposes of acquiring new knowledge, or
- For creating new or improved materials, products, devices, processes, or services; and
- That are intended to advance science or technology through the resolution of scientific or technological uncertainty.

Most CRI R&D activity is commissioned by government (local and central) and commercial entities, or funded from contestable funding rounds from, e.g. MBIE. The "entity eligibility" test requires that the entity claiming the Tax Incentive must be the entity taking the business risk associated with R&D. Therefore, work done by CRIs under commission or contract will not attract a Tax Incentive claim from the CRI.

There is however a significant amount of R&D activity funded by the CRI, where the CRI is itself taking the R&D risk and owns the output. In addition, many CRIs have subsidiaries and joint ventures or other legal structures which undertake eligible R&D activity (see below

for further discussion). Such activity is an important component in growing New Zealand's science and technology capability and generating spillovers such as its transfer into economic, social and environmental outcomes benefiting New Zealand.

The discussion paper lists CRIs amongst government entities to be excluded from the Tax Incentive. CRIs, however, are substantively different from the other entities in various ways – such as being companies and subject to the Companies Act, having to pay tax and rates, having to operate in a competitive marketplace against competitors (some of which are subsidised by the government), generating capital for capital expenditure, and having to make a financial return. As CRIs are in all respects companies, there is no reason to treat them differently to other companies and to do so leads to inefficiencies in the tax system.

Private sector businesses will be able to claim the Tax Incentive. It is hoped that the firms will then grow the level of their investment into R&D and reinvest most if not all the rebated tax in further R&D. Businesses claiming at least $100,000 in R&D annually are already awake to the potential from R&D. CRIs as R&D focussed businesses will use the rebated monies to reinvest into their R&D business – which will include leveraging such money to attract additional investment into R&D from the private sector. This increases the scope and range of R&D investment and returns for New Zealand.

If CRIs are excluded from the R&D Tax Incentive regime, it will deprive the sector of an opportunity to claim and reinvest a significant amount back into research. CRIs should be eligible to claim R&D Tax Incentive where they are taking the R&D risk because:

ii) CRIs play a unique and important role supporting their sectors to innovate and grow. They strive to address New Zealand's most pressing issues and achieve economic growth by improving sectors' productivity and improving the sustainable use of natural resources.

iii) As Crown-owned companies, the Crown has a significant investment in the performance of CRIs and the ongoing maintenance and development of their capability (human and physical). The exclusion of CRIs from the Tax Incentive will compromise the CRIs position in the competitive marketplace, and thus have an adverse effect on the financials of the CRI which, if not Crown-owned, would be avoided. If CRIs are taking R&D risk and are not eligible for the Tax Incentive, CRIs would be at a disadvantage to any other New Zealand R&D provider.

iv) The Government is committed to increasing expenditure to 2% of GDP over ten years – not all of which will come from the business sector. Based on StatisticsNZ 2016 R&D survey, Government accounts for 0.26% of R&D expenditure as a proportion of GDP, which is below the OECD average. Making CRIs eligible for the Tax Incentive will assist the government achieve its policy objectives.

v) CRI research creates knowledge and advances technology ahead of the requirements of existing sectors and can lead to creation of new sectors. The Tax Incentive makes a material difference to the further investment by CRIs in such research which benefits New Zealand and that would not otherwise be carried out.

vi) Disruptive science and technology is evolving at an unprecedented rate necessitating CRIs, as businesses, to increase their investment in new methods that will improve social, economic, and environmental outcomes. These include data science, genomics and metagenomics, miniaturisation of technology, sensor technology, and point-of-use testing. Additional investment made possible from the Tax Incentive will enable CRIs to accelerate the development of emerging science and keep in advance of current needs of sectors. As with any business, a CRI will undertake a business case for expenditure – more work will meet the economic test if the Tax Incentive applies.

vii) CRIs are companies, reliant upon their earnings to reinvest into human and physical resources. CRIs operate in a competitive marketplace, in which competitors are subsidised (e.g. TEOs), and now in which some competitors will be eligible for significant tax advantages and create further cost pressures upon CRIs to stay viable. The Tax Incentive will apply to multinationals locating some R&D capability in New Zealand, while (potentially) the major research and development companies focussed on benefiting New Zealand are excluded.

viii) The role of royalty streams needs to be considered. Royalty streams allow for value sharing between a CRI and a client (which can be a company, a Maori incorporation or an industry body). In some instances, the royalty stream is based upon an agreed portion from e.g. a commercial licence being directed to research related to their industry. The R&D risk is taken by the CRI, and therefore the Tax Incentive should apply to the CRI. If the royalty stream is excluded, the industry partner may choose to re-negotiate the scale and duration of the royalty or dis-incentivise commercial partners to invest in IP developed by the CRI reducing the spillover benefits from sector/CRI collaboration.

ix) Excluding CRIs from the Tax Incentive can lead to perverse behaviour and business structuring. There are two elements here:

a. Exclusion of CRIs while allowing eligibility for subsidiaries or other business structures. This could lead to R&D being funnelled through the subsidiary.

b. Exclusion of all subsidiaries or other business structures in which CRIs are involved. CRIs have considerable engagement in a variety of business structures with clients and partners. For CRIs, this includes attention to both the direct business outcomes and to the role of the CRI in protecting public good outcomes.

ii) Subsidiaries of CRIs should be eligible for the Tax Incentive

CRIs and their subsidiaries should be fully eligible for the R&D Tax Incentive for R&D which is done at the risk of the CRI, i.e. not commissioned or done under grant.

If that is not accepted, however, CRIs are particularly concerned with the definition of subsidiaries and control.

The 2008 definitions proved problematic. This submission is informed by those experiences. Inappropriate definition creates a dis-incentive for private commercial partners to becoming involved with subsidiaries of CRIs. CRIs have a uniquely important role in the New Zealand

tech transfer and commercialisation space, in addition to being the recipient of 2 of every 3 dollars that business spend on external R&D with the public sector.

CRI subsidiaries have a variety of structures with varying degree of ownership – including but not limited to wholly owned and 50:50. CRIs develop or agree joint ventures as a transitional step to, for example, developing and then "handing over" a new industry, process or technology. If the subsidiaries are excluded from the Tax Incentive this may prove a dis-incentive for potential private commercial partners to becoming involved with CRIs, lowering the value of the spillover benefits coming from the close collaboration of industry with research providers.

Some CRIs have no subsidiaries at present that undertake eligible R&D. Others have wholly-owned subsidiaries which undertake several million dollars of eligible R&D; and/or joint ventures (including those with a minority shareholding) also into the millions of dollars.

CRIs invest into these entities from retained earnings or royalty streams that would otherwise be profit. This investment is deliberate and specific to address important research questions or capability that would otherwise not be funded. To exclude this activity from the R&D Tax Incentive could encourage unintended behaviour from commercial partners to attempt to capture the R&D Tax Incentive directly for themselves, or penalise CRI's versus a private R&D provider (which would receive the Tax Incentive and be able to reinvest that into growing its capability).

In general, if CRIs and their subsidiaries are taking R&D risk and are not eligible for a Tax Incentive then the organisations are put at a disadvantage to any other New Zealand R&D providers and their subsidiaries against which they compete.

iii) Eligible expenditure needs to be broad and include support activities, R&D expenditure outsourced to approved research providers (including CRIs)

Many of the activities are essential support activities for conducting and implementing research. To exclude these from eligible support activities, when genuinely used to support eligible research, would increase the financial risk of conducting research.

iv) Funding invested in R&D as required co-funding for Government grants should be included in the Tax Incentive for the company carrying the financial risk

"Required co-funding" is listed as excluded expenditure in the discussion paper. It is unclear why funding that is required by the government is excluded from the R&D Tax Incentive when the business making a co-funding would, in any other situation, be eligible.

If the co-funding is ineligible, it is likely to make such business co-investment more difficult for research organisations to gain as it would dis-incentivise industry co-funding. This in turn means reduced take-up of government grants requiring co-investment (including PreSeed Accelerator Funding, Vision Mātauranga Capability Funding and Primary Growth Partnership funding) and less collaboration between industry and research providers in forming public/private partnerships.

The source of the co-funding should be the determining factor, rather than what other entity the business is engaged with.

v) Social Science which leads to new knowledge and is conducted using the scientific method should be eligible for the Tax Incentive.

Social science is important to the understanding of the adoption of disruptive innovations and technologies. Research drawing on social science disciplines (e.g. anthropology, psychology, politics and experimental economics) has provided the foundation and direction to consumer-led new product development for companies in New Zealand (particularly in developing new foods) and internationally. For example, Unilever undertaking research to understand the settings in which consumers live so as to design better products.

Response to Questions

Mechanism, rate, and imputation.
Science New Zealand does not have a view on the mechanism, the rate, or the imputation mechanism. We note that the policy is set with a view to the sustainability of the Tax Incentive and that it is anticipated that the detailed rules of the Incentive will change over time for various indicated reasons; but such change will be tempered with the need to maintain a level of stability.

Q1: If SOEs, Crown Research Institutes, District Health Boards, Tertiary Education Organisations and their subsidiaries are excluded from the tax incentive, what will the likely impact be on business R&D in New Zealand?

Eligibility
Science New Zealand agrees that the Tax Incentive should be available as widely as possible, regardless of legal structure, and be as accessible and inclusive as possible. The worldwide experience is that R&D expenditure supports economic growth and opportunities of the wider community even when that R&D is undertaken in or for a private entity.

It is good to see that the policy considers the need to have it open to varying entity structures which can often characterise Māori businesses, and so ensure that this important area of economic and social potential is not excluded.

The eligibility tests for businesses are appropriate:

- Be located in New Zealand and carrying out R&D in New Zealand (subject to a certain percentage being permitted to be conducted offshore)
- Be in business, with an intent to make a profit
- The R&D expenditure must relate to the business (current or intended)
- Must have control over the R&D activities
- Must bear the financial risk of the R&D activities
- Must effectively own the results of the R&D.

All these tests equally apply to Crown Research Institutes.

However, the discussion paper lumps together CRIs, District Health Boards (DHB), Tertiary Education Organisations (TEO) and subsidiaries under their control, as government entities and, on that basis, excludes them from eligibility.

As discussed above, Science New Zealand strongly asserts that:

- CRIs differ in structure, constitution and purpose from the other entities listed;
- that CRIs meet the requirements of the eligibility test in every instance, unlike the other entities listed; and
- that CRIs are uniquely placed amongst Crown-owned entities, by virtue of purpose and structure, to assist the Government achieve its policy objectives.

Science New Zealand agrees that the policy objective will be supported by inclusion of entities whose R&D activity (undertaken or commissioned) is fundamentally business R&D.

Q 2: How well does this definition apply to business R&D carried out in New Zealand?

Science New Zealand agrees that the definition needs to be clear, robust and practical. Having multiple definitions of R&D in the tax system is problematic, and so should be resolved so that complexity (e.g. around boundary issues) is minimised.

We understand that the proposed R&D definition (*discussion paper, page 15, in blue box*) enables the claimant to claim against

i) core activities (as defined)
and, if the core activity is accepted,

ii) also claim against support activities (as defined). [i.e.: an entity cannot claim against support activities unless the core activities are accepted].

We understand that the purpose of the two-part definition is to give clarity to the oversight agencies on what level of R&D is being undertaken, and to track weighting of claims.

Science New Zealand agrees that the focus must be on incentivising activity which is intended to resolve scientific or technological uncertainty, in the context of a business (broadly defined) seeking profit.

Science New Zealand agrees that the R&D should not need to be 'successful' to qualify. This allowance recognises that R&D is inherently risky. Ongoing 'lack of success' which is funded 87.5 per cent by the claimant entity becomes self-limiting, as any entity will need to recover its costs and have profitability at some point. In addition, the 'success' - if any - of the R&D activity may only become apparent at some later point, to this entity or to another (which will seek to acquire it), well after any tax claim would have been made. A policy objective is to have more R&D expenditure, and even the 'unsuccessful' R&D will improve knowledge and capability in the system.

Some submitters may question how science or technology is advanced if the scientific or technological uncertainty which the R&D resolves is not made publicly available. The knowledge can be made available through open access, publication in journals, or patenting. This would be very limiting however, as businesses must retain the multitude of ways (including trade secrecy) currently available by which to benefit from their R&D investment. In practice, the advance is integrated into a product or process which is usually visible in or to the marketplace.

This practical understanding of how scientific and technological uncertainty is resolved and knowledge advanced in a market economy affects the answer to Question 5. A business should be entitled to claim R&D Tax Incentive on its R&D efforts in understanding how another entity has resolved such uncertainty where the work is intended to lead to an improved product or process for itself.

Q3: Does this definition exclude R&D that you think should be eligible. Illustrate with examples.

No. The definition allows for basic research and experimental development work to create new or improved materials, products, devices, processes or services. That the Tax Incentive is available only to entities that must make a profit, ensures that the

R&D is undertaken with an intent to create a product or service which generates a return for those doing or commissioning the research.

The definition needs to be clearer that it encompasses reverse engineering as a core R&D activity.

The legislation and regulations used in various government initiatives should have a common definition of R&D in order to achieve the policy objective of a definition which is clear, robust and practical.

Q4: Does the scientific method requirement exclude valid R&D in some sectors. Illustrate with examples.

No. The phrase 'scientific method' has an accepted usage in R&D literature. The phrase does not exclude a wider context, such as use of cultural knowledge and processes, but does specify what elements would qualify. CRIs offer their support in developing the definition and illustrative examples.

Q5: What would the impact be on business R&D in New Zealand if a materiality test was applied to <u>both</u> the *problem* the R&D seeks to resolve and the intended *advancement* of science or technology?

The Tax Incentive is intended to increase R&D expenditure in New Zealand. By and large, business will undertake or commission R&D which leads to material outcomes such as new or improved product or processes. Otherwise, the R&D is a hobby activity. It would be prudent to ensure that a requirement for materiality is set.

The "core activities" definition in the paper refers to R&D "intended to advance science or technology through the resolution of scientific or technological uncertainty." The paper states that the purpose of this phrase "ensures that the credit is only available for solving problems that have not already been solved and which will expand the existing knowledge base."

In practice, businesses often invest in R&D to understand how a product or service that is held elsewhere is comprised or works, with the intent to subsequently improve or otherwise build on that product or service. In this example, sometimes called reverse engineering, the business is expanding its knowledge base, even when that knowledge is held elsewhere and the problem (inherent in the product or service) has been solved albeit by another entity.

It may be that this is what is intended to be covered in bullet 10 of the list on page 17, which lists activities excluded from para A but "could" qualify as support activities under para B: *"the reproduction of a commercial product or process by a physical examination of an existing system or from plans, blueprints, detailed specifications or publicly available information."*

Science New Zealand recommends that the R&D investment made in reverse engineering in this type of situation be included in Para A of the Tax Incentive.

The materiality test should be applied to the problem the R&D seeks to resolve, and to the intended advancement of science or technology.

Q6: How well does this definition apply to business R&D carried out in New Zealand?

Science New Zealand agrees that it should not be necessary that the R&D activity be successful to be eligible for the Tax Incentive.

Science New Zealand accepts that support activities (covered by paragraph B of the proposed definition), such as literature searches, should also be covered by the Tax Incentive.

Some activities (page 17) are excluded from the tax incentive:

- To clarify boundaries between experimental development and pre and post-development activity, or innovative and routine work
- Government does not wish to incentivise a particular activity or wishes to clarify if an activity is in or out.
- The list is similar to that used currently for the eligibility for the Growth Grant.

The paper states (page 18) that the Government is considering a blanket exclusion for the matters listed on page 17, to make them ineligible for both core and support activities, in order to reduce the risk of expenditure being re-characterised to be eligible as supporting activities.

Science New Zealand proposes that further discussion be held with officials on all elements in the list. It is understood that opening up the list to activities currently excluded under the Growth Grant will expand the eligible activities; however, some elements are fundamental to encouraging additional R&D and should be included.

Science New Zealand particularly notes:

- *Social science research*
  As discussed above and under Question 8, Science New Zealand asserts that social science research, conducted according to the scientific method, should be included in para A.

  It is substantively different to (for example, from the Para B listing) *market research, market testing, market development or sales promotion, or to the making of cosmetic or stylistic changes to materials, products, devices, processes or services.*

- *Commercial, legal and administrative aspects, patenting, licensing or other (similar) activities.*
  These need to be included as eligible under Para B (support activities).

- *The reproduction of a commercial product or process by a physical examination of an existing system or from plans, blueprints, detailed specifications or publicly available information.*
  Science New Zealand strongly proposes that reverse engineering should be included in Para A (core activities).

Q7: Are there any reasons why the exclusion should not apply to support as well as core activities? Describe.

The activities that are eligible should be consistent across core and support activities.

Q8: Provide examples where social science research is/has been a core part of business R&D in New Zealand.

Social science is an increasingly critical element in the acquisition of new knowledge, creating new or improved materials, products, devices, processes or services; and advancing science or technology through the resolution of scientific or technological uncertainty.

Social science research is not the same as market research or evaluation. Social science is an essential component in areas as diverse as biosecurity research and in developing export products or processes (e.g. consumer preferences in food). It is critical to research uptake and implementation, and is thus a central element in the purpose of this policy – i.e. increasing R&D expenditure that helps drive New Zealand's wealth and wellbeing.

Examples of business driven social science research include:

- Orion Health undertakes research to understand patient flows, how patients interact with hospital staff and how staff undertake administration activities such as note taking to inform their hospital management systems.
- Soul Machines undertake research into how consumers interact with computer generated avatars to guide their development.
- Biosecurity and environmental businesses in New Zealand.

Q9: What is the likely impact on business R&D in New Zealand if dual purpose activities are ineligible for the R&D tax incentive

Science New Zealand supports the underlying principle that the Tax Incentive should be targeted at R&D activity, in a way which is clearly differentiated from business-as-usual activity but not in a way that does not reward investment in innovation.

This means that a business must be able to identify the contribution of the activity towards the R&D definition, in order to claim against it. For some support services the level of contribution may be challenging to identify. It may be time is taken to monitor and evaluate uses of it, in practice, over time and then refine the guidance. CRIs are wary of inefficiencies from having to detail each item, beyond what can currently be done as part of standard contracts which specific overheads allocation.

Science New Zealand therefore recommends the "dual purpose activities" exclusion be removed. This exclusion does not align with how business is conducted. Taxpayers who are in business may incur R&D in order to innovate as a primary purpose but will usually have a secondary purpose of commercialisation or consumerisation. Excluding activities that are not carried out for a sole R&D purpose will preclude a significant amount of R&D expenditure.

A test along the lines of activity which would not have been carried out "but for" its R&D element could be more workable.

Some overseas R&D may be eligible

Science New Zealand agrees with the underlying policy principle that the Tax Incentive is intended to support R&D in New Zealand.

Science New Zealand concurs with the view expressed in the paper that some R&D must, of necessity, be undertaken offshore. This may be for reasons such as that essential research equipment and/or people are based offshore. It also allows New Zealand-based R&D people to access latest knowledge and techniques and bring them back into New Zealand (adapt or adopt).

The paper proposes a cap of ten percent of eligible expenditure on an R&D project for work done offshore; provided that at least half of the total R&D project costs are incurred in New Zealand. If more than half of the R&D is carried out off-shore, only the New Zealand-based R&D will be eligible.

This effectively imposes a constraint upon businesses going offshore for expertise or access to equipment. As presented in the paper, this is a blanket cap across all forms of offshore R&D activity – whereas the need for offshore R&D is likely to be unequal across the R&D spectrum and the sectors engaged in R&D. For example, biosecurity research that cannot or should not be done in New Zealand (e.g. on threats yet to appear in New Zealand).

Science New Zealand agrees that the underlying policy principle of the Tax Incentive requires a cap on off-shore work. The oversight agencies should monitor the scale of such claims, and which areas of R&D activity may potentially benefit from an increased offshore cap in order to maximise benefit to New Zealand.

Q10: What are the advantages or disadvantages of limiting eligible expenditure to R&D labour cost?

Limiting eligible expenditure to R&D labour cost imposes a disincentive to use the best science (tools, materials, techniques) for the purpose, in favour of incentivising use of more manpower. It is an anti-productivity incentive.

Funding of direct costs only is not consistent with the government research system which has, since 1990, been based on full cost funding. Funding of direct costs only will create significant systemic issues around accountability and monitoring within research organisations. Full cost funding allows for maintenance of science capability and infrastructure, a cost that would otherwise be borne by public funds and/or cross-subsidy within a company.

Q11: What are the advantages/disadvantages of setting overhead costs as a percentage of R&D labour costs?

The policy should require actual overhead costs. Businesses are used to knowing the components of costs. Using a percentage for indirect costs is extremely difficult to get right to a useful degree as it varies considerably according to type of R&D being developed. The data developed from processing claims will produce a range of "efficient' overheads in due course, so that monitoring agencies can assess if individual businesses or types of business are claiming outside that range – and so can attract audit scrutiny.

Q12: Are there any reasons why expenditure related to R&D activities for which commercial consideration is received should be eligible for a tax incentive. Describe.

The paper proposes to exclude expenditure that relates to R&D activities for which the entity conducting the activity has, or could reasonably expect to, receive a "commercial consideration." This is part of a strong "at risk rule".

There needs to be clear definition of "commercial consideration." The principle is that the entity which takes on the R&D risk is the one eligible for the Tax Incentive, not the entity that undertakes the R&D. So, a CRI that is commissioned by an entity does not receive the Tax Incentive.

In some projects, a CRI may share a royalty stream with a client that is commissioning the R&D. This is a standard arrangement which enables value share, to mutual benefit. A strict reading of the paper suggests that would mean the entire R&D activity would be ineligible – for the commissioning entity as well as the CRI. This outcome is a disincentive, and alters the traditional relationship between the provider and commissioner. Science New Zealand recommends that royalty-based arrangements are not excluded as eligible expenditure.

Q13: What variations or extensions to the definition of core activities are required to ensure it adequately captures R&D software activities?

Science New Zealand supports the recommendation in the paper that officials work further with interested parties on how the R&D definition should apply to software.

Q14: Are there reasons why continuity rules should not apply to tax credits? Describe.

Investors should not be prevented from benefiting from the Tax Incentive. The accumulated tax benefits would be incorporated into the value of the business that later investors are buying into – so they would pay the initial investors for the benefit.

Q15: Is the minimum threshold set at the right level? If no, provide details.

The minimum threshold is set to ensure a substantial internal spend is met by eligible businesses. Science New Zealand has no view on whether this is the right minimum.

Science New Zealand agrees that the minimum threshold should not apply to R&D activities outsourced to an Approved Research Provider (ARP).

Science New Zealand agrees with the draft definition of the Approved Research Provider, and that it include public and private entities. The monitors will need to ensure that ARP do not cross-subsidise their services from other components of their business.

Members offer their support to Government in the ongoing design elements around handling tax loss situations.

Q16: How important is a cap or a mechanism to go beyond the cap? Provide details.
Q17: What features of a Ministerial discretion or pre-registration would make them most effective?
Science New Zealand agrees with the recommendation that there is a maximum in order to avoid potential shocks to the cost of the scheme.

Members offer their support to Government in the ongoing design elements around handling or incentivising manageable R&D investment above the cap.

Q18: What are your views on the proposed mechanisms to promote transparency and enhance evaluation
Q19: Are there any other risks that need to be managed? Describe.
Science New Zealand agrees with the recommended process for evaluation of the Tax Incentive scheme.

Science New Zealand agrees with the recommended process for transparency. This is contingent upon better understanding the detailed processes around handling commercially sensitive information. Members offer their support to Government in designing this detail.

Q20: Are there risks with extending penalties to external advisers (who gain from a contingency fee in inflating a claim)?
Science New Zealand agrees that the integrity of the tax base needs to be protected robustly. Inflated claims deprive other funds potentially available to the nation's R&D expenditure, and puts strain upon the acceptability of the R&D Tax Incentive system.

Q21: What is the right level of information required to support a claim?
Q22: What opportunities are there for customers to submit R&D Tax Incentive claims via third-party software?
Q23: What integrity measures do you think Inland Revenue should use?
Science New Zealand supports a robust tax integrity system. Inland Revenue processes are focussed on low compliance costs and ease of use, preferably paperless. The proposed process is in line with that direction.

Science New Zealand offers its support to Government in designing the detailed processes around claims. The Tax Incentive is a very large sum for the science system in New Zealand; it is however, just one part of the national tax system so should not be overburdened with process. As greater experience is gained with the Tax Incentive process officials should look to reduce compliance costs and processes.