

Submission by

Innovation Support Pty Ltd

In response to the Consultation Paper:

“The new research and development
tax incentive”

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Some preliminary comments

1. Australia and OECD Ranking

The Consultation Paper outlines some of the changes proposed to the R&D Tax Concession Program which will form the basis of the new R&D Tax Credit Program. Many of the changes proposed are, in our view good and to be welcomed but some raise our concerns. We recognise that it is always important that any set of legislative provisions and guidelines are developed to ensure that only those who are genuinely entitled to the benefit actually receive it. Nevertheless some of the proposals – and we recognise that that is all they are for the moment – have the potential to shut out those who we consider to be deserving of the program's support.

Moreover it needs to be recognised that business is always wary of programs that are perceived to be lacking in stability and predictability in the business environment. Any adverse perception arising from proposed changes to the program could have a negative impact on BERD. Australia's ranking in the OECD's BERD to GDP ratio has been steadily increasing ¹ but is still below the average. It is widely accepted across the political spectrum in this country that we should be seen to be near the top end of the ranking table rather than the bottom. Australia faces a serious challenge here because it is competing with countries such as the USA with its large aerospace and military industries which receive substantial government contracts and which also have other mechanisms, not available in Australia, that inflate their BERD. Some of the companies operating in these industries spend up to 15% of turnover on R&D ² a level of expenditure that no Australian company matches.

We do not think therefore there is any embarrassment to be allocating more government funding in Australia to programs such as the R&D Tax Credit than might be allocated in other countries. It is therefore important that the program should be seeking to be "inclusive" rather than "exclusive".

We recognise that the Minister requires the new program be "revenue neutral". It has to be acknowledged that this commitment was made in a time at the height of the Global Financial Crisis. The new program is not likely to have much impact on revenue until after the first financial year of its implementation, viz., the 2011/2012 year. The emerging consensus is that by then the worst of the crisis will be over and the global economy will have

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<http://www.abs.gov.au/AUSSTATS/abs@.nsf/ProductsbyCatalogue/BAE5FB25D2121F6DCA2568A9001393EF?OpenDocument> See Also:

<http://www.innovation.gov.au/Section-AboutDIISR-FactSheets-Pages/BusinessExpenditureonResearchandDevelopmentFactSheet.aspx> – accessed on the 20 October 2009.

² This information is based on authors' memory as time hasn't permitted us to chase up the necessary references.

returned to some state of “normalcy”. Perhaps the Minister should be persuaded to convince his colleagues that his “revenue neutral” requirement could be relaxed given the expected improvement in the country’s economic circumstances.

Recommendation/Conclusion:

A substantial investment by the Federal Government in programs such as the R&D Tax Credit is necessary to allow it to achieve a high BERD/GDP ratio when compared with other countries that have industries, such as aerospace, to which governments provide substantial support via large government contracts or similar mechanisms.

2. Understanding how Industry/Business views R&D

It is worth reflecting on some basic issues in relation to the broad objectives of government incentives for Research and Development (R&D) which are well stated in Guide Part A page 9³. We will take on board the usual assumptions that economic benefits flow into an economy as a consequence of R&D being conducted, some of which may be licensed elsewhere but with the preferred outcome being to expand and increase the competitiveness of local businesses and industries.

The R&D Tax Concession and the proposed R&D Tax Credit in Australia are directed primarily at supporting R&D in what the Oslo Manual⁴ refers to as the Technological Process and Products sector of the economy. It is important that legislative provisions and guidelines are comprehensible and are readily applicable to those who operate in this sector. The present and proposed legislative provisions and guidelines utilise the concepts of “core” and “supporting” activities where the core activities embody the characteristics of “innovation” and “high levels of technical risk” and the supporting activities embody “related activities”.

Our experience indicates that in the business world these concepts are not used even at senior research administration levels because they do not assist in determining internal R&D policy. These concepts were created by those who perceive R&D in highly academic terms. In the business world it is often the task of the internal R&D administrator (or external consultant) to prepare documentation that articulates the work done in these terms so as to enable the company to submit an eligible R&D Tax Concession claim.

Companies will establish R&D programs that, in their view, will allow them to “solve technical problems”. They will allocate staff and resources with capabilities beyond those accessible in their production environments to the

³ Guide to the R&D Tax Concession Part A May 2009 Version 4.2

⁴ “Proposed Guidelines for Collecting and Interpreting Technological Innovation Data” Oslo Manual OECD 1997 – Hardcopy version. (Note pagination is different to PDF version!!)

solution of problems. These problems may be associated with “the development of a new or improved product, process etc. ...”.

The phrase “solving a technical problem” is frequently encountered in the Guide part B ⁵ - see for example pages 17 and 28. However one has a perception that it is a subordinate requirement, whereas for industry it is the paramount driver.

Interestingly enough the phrase “systematic investigative and experimental activities”, which has been used more frequently over the last few years is one that industrial researchers relate to well, although they are more comfortable with the replacement of “experiments” with “trials”. (It is accepted that “trial and error” is not systematic).

We offer this cautionary advice. It is imperative that we don’t finish off with a set of criteria or definitions of R&D that are so academic that the intended beneficiaries of the R&D Tax Credit can’t relate to them.

Recommendation/Conclusion:

In defining what R&D is and what will be recognised as eligible R&D the legislative provisions and guide material should attempt to use terminology and language that is more familiar and comprehensible to the ultimate users – industry and business.

3. Supporting Activities

Those who operate in the sphere of industrial research will often describe their work as “more D than R”. This is because the translation of an innovation or the solution to a problem into a commercial reality is often a protracted and expensive process. It is where all the supporting activities are carried out and where a substantial claim on the program arises. We recognise that there are concerns that some claimed R&D activities spill into the commercialisation phase (post R&D) or may become unnecessarily bloated as suggested in Appendix A. We will return to this discussion later. In short, without adequate conduct of supporting activities in the R&D program, there cannot be progress to commercialisation.

The point we wish to make here is that it is almost a truism that Australia has a good record in conducting R&D but a poor record in commercialising the results of that R&D. It is generally acknowledged that government support of R&D is an attempt, in part, to address a market failure arising from the commercial risks associated with commercialising the products of R&D. (More on this matter later). Any brutal reigning in of support activity claims will send the message that the government and its advisors have once again failed to understand where the market failure lies.

⁵ Guide to the R&D Tax Concession Part B July 2008 Version 4.2

Recommendation/Conclusion:

Great care should be exercised when attempting to curtail expenditure in supporting activities which provide the critical bridge from the research phase into the commercialisation phase and which has been recognised as an area of market failure in the Australian economy.

4. Invoking the Oslo Manual (OM) and the Frascati Manual (FM) ⁶

The OM and FM resources are invoked to provide definitions and related material which is used in formulating Australian and other countries' legislative provisions and guides for government support of R&D. We note that where there is an attempt by the Consultation Paper to impose a tighter condition or narrower definition, it is claimed to be supported by these documents. But we have found that in some case these documents (as we have them), are somewhat more relaxed and less narrow than the Consultation Paper suggests. We will provide examples later in our submission.

Recommendation/Conclusion:

We suggest that some of the interpretations and inferences about R&D supposedly derived from the OM and FM, which are used in the Consultation Paper and, furthermore, have been used in past guidance and related material, are misleading. Those preparing such material should strive for greater accuracy in the referencing and interpretation of these key resource documents.

⁶ "Proposed Standard Practice for Surveys on Research and Experimental Development" Frascati Manual OECD 2002. (We are using the pdf version which maybe paginated slightly differently to the hardcopy)

Comments on Specific Principles and Questions

Location of IP ownership not relevant, Items 28 to 30

There needs to be some careful thought put into this issue. Currently under the IRD Act 1986, there are many requirements for the R&D to be exploited to the benefit of the Australian economy. This has generally been taken to mean, at the very least, that some type of commercialisation in Australia must at least have been seriously considered. Presumably these provisions may need to be reinterpreted so that even a small spillover effect from the R&D is considered to be of benefit to Australia.

We also see some problems for overseas companies if the eligibility requirements are tightened as discussed later.

Recommendation/Conclusion:

Changes to the ownership of the IP as proposed in the Consultation Paper while encouraging the entrance of new investors in R&D will require a revision of past concepts such as benefit to the Australian economy and probably amendments to the IRD Act.

Non-enhanced deductions, Items 39, 40, 41.

We are quite concerned specifically about Core Technology claims being disallowed as a deduction of any type. We have a client who has not fully benefited by exhausting the Core Technology quantum. This claimant will need to continue amortising the Core Technology under ss73B(12A) & (12B) ITAA 1936 in order to benefit from the investment in its purchased intellectual property.

Disallowing Core Technology deductions entirely, as suggested in the Consultation Paper, would eliminate all possibility of a deduction for this type of expenditure. One might think that it is a simple matter of converting the unclaimed amount of unamortised Core Technology into an amortising item of intellectual property under s40-95(7) ITAA 1997. However this is not permissible under s73BB(1)(b). Of course the problem could be resolved in relation to Core Technology by revoking or not replacing s73BB(1)(b) but this does not provide the accelerated option available under s73.

Recommendation/Conclusion:

The situation as to how Core Technology deduction may continue to be claimable will need to be resolved to ensure that those caught in the transition period will not be penalised.

Eligible R&D Activity Principles 5 & 6

The Consultation Paper once again raises the spectre of requiring R&D to conjointly involve both "innovation" and "high levels of technical risk". The Consultation Paper goes on to argue (at Footnote 6) that the proposed new

definition is **predominantly** (our emphasis) in line with the Frascati Manual and with the tighter definitions applying in other jurisdictions.

We cannot comment on the definitions employed in other countries nor how these definitions are deployed administered and enforced, in order for us to assess whether these countries set a higher level of eligibility. But we would like to draw attention to the interpretations being applied to extracts from FM and OM.

We identify several differences. For example, FM paragraph 63 page 30 provides a definition of R&D. Paragraph 64 goes on to note that “The term R&D covers three basic activities: basic research, applied research and experimental development.” Nowhere do we find any requirement that FM requires eligible R&D to have elements of all three activities! According to FM a project which solely is “basic research” or “applied research” or “experimental development” qualifies as R&D. But this wouldn’t be the case under the proposals outlined in the Consultation Paper. We raise concerns about this later in relation to the issue of overseas companies funding R&D work in Australia.

We now show that the concept of high levels of technical risk is not derivable from FM. Let us look at what additional guidance the FM provides about R&D, (page 34).

“The basic criterion for distinguishing R&D from related activities is the presence in R&D of an appreciable element of novelty and the resolution of scientific and/or technological uncertainty”

We believe there is a substantial conceptual gap between the notion of needing to “resolve a scientific and/or technological uncertainty” and the presence of “high levels of technical risk.”

How does the FM assess the level of risk associated with resolving a scientific and/or technological uncertainty?

“... *i.e.* when the solution to a problem is not **readily** apparent to someone familiar with the basic stock of common knowledge and techniques for the area concerned.” (Our emphasis)

What can this mean? We suggest that the problem being faced is one that the average production engineer or equivalent cannot **readily** see a solution to (*i.e.*, not readily apparent). But perhaps given the opportunity to go to the library and do some investigations in the literature or to do some detailed web searches,

it is likely that he/she would find the necessary information to resolve the scientific and/or technological uncertainty.

Note that there is no requirement by the FM to resolve the scientific and/or technological uncertainty through activities that are systematic, investigative and experimental. The resolution of the scientific and/or technological uncertainty could also be achieved for example by “basic research”.

Recommendation/Conclusion:

We assert that the Frascati Manual definition of R&D is not predominantly coincident with that proposed in the Consultation Paper; there are some significant differences.

Other problems with the phrase “high levels of technical risk”

We have always had problems with the term “high levels of technical risk” in that it sends a much more severe and constraining message than what appears in the OM and FM. We realise that there is some history – specifically the Unisys case⁷ – which has led to its evolution and adoption. There is no need to revisit this history here. But we believe the time has come to investigate the usefulness of the criterion of “high levels of technical risk”.

As we have noted above, the task of resolving of scientific and/or technological uncertainty cannot be equated to a situation of “high levels of technical risk”. Most people when encountering a situation entailing high levels of technical risk would also associate this with a high probability of failure.

If we were managing a company that was faced with a decision as to whether or not to embark on an R&D project that entails high levels of technical risk we might choose to avoid it all together or engage the world’s best experts in the area; our shareholders and board would insist on nothing less. But this is not what the FM is implying or what can be inferred from its discussion.

We would have little difficulty if the FM definition were to be used verbatim and the phrase “high levels of technical risk” avoided and replaced with “resolving a scientific or technological uncertainty”.

Recommendation/Conclusion:

There is a good case to avoid the term “high levels of technical risk” and find an acceptable alternative if it is to be

⁷ Industry Research and Development Board v Unisys Information Services Australia Pty Ltd (formerly Synercom Australia Pty Ltd) [1997] 777 FCA (19 August 1997)
- Terms in issue: “involve innovation or technical risk” in s73B(1) of the ITAA 1936.

conjoined with “innovation” in the definition of eligible R&D.

Some of the other problems that the proposed new definition will give rise to.

(a) Time differences

Perhaps the most serious problem arises when a project is split in two components: the development of the innovative concept and its physical realisation and these activities are separated in time.

For example a biochemist might identify a new drug by conducting some basic research, such as molecular modelling, into chemical structure of a protein. However the biochemist may have no idea as to how difficult it is to manufacture the drug but has determined from the scientific literature a requirement for a particular type of catalyst.

The biochemist will have to arrange for the biochemical engineers to investigate the issue but they are presently committed to other projects and will not be available until the following financial year.

Thus there is a “basic research” project that has met the criteria of an appreciable element of novelty and resolved the dominant scientific and or technical uncertainty – passing the FM test. But because there is no evidence as yet as to the presence or absence of high levels of technical risk, it will fail the proposed conjoint test of the Consultation Paper and cannot be registered.

In the next financial year the engineers determine that there are substantial technical risks in trying to make the process work. But the project can still not be registered as the innovative activity was conducted in a previous year when the project also couldn't be registered.

Surely such a consequence should be regarded as highly undesirable and means to avoid it should be sought.

In a related concern, it has been our experience that high levels of technical risk are frequently not evident in a research project until after the innovative activity has been conducted and its implications well understood. Some preliminary experimentation is often needed to ascertain how difficult the problem of translating the innovation into some tangible output is likely to be. There may also be long delays between the innovative activity and the

preliminary experimentation, negating the possibility of registration.

One possibility of dealing with these problems is to allow a several year period over which a claimant is given the opportunity to demonstrate the presence of appreciable innovation and high levels of technical risk.

(b) Basic Research

We have suggested above that the proposed change to ownership of IP might encourage some overseas owned companies to fund some basic research in Australia as a first step in deciding what further commitments they might make. For example they may fund some basic research at an Australian university, which is a registered research agency (RRA), to produce some new knowledge which the company will exploit in its home based R&D programs.

The contract with the RRA might not require any experimental work to be conducted. The proposed changes by the Consultation Paper would not allow this expenditure as an eligible R&D claim. But as noted above this project would meet the definition of R&D given in the FM.

(c) Paragraph 54 asserts that a project which has only an innovative component but no technical risk is merely doing what is commercially sensible and therefore does not warrant a subsidy. This is quite erroneous in our view and misses the whole point of programs such as a tax credit. Consider the following statement by the Minister's department:

“....governments can support innovative businesses by reducing impediments and providing incentives to address specific market failures.”⁸

This view is not unique and similar views can be found in many other sources that discuss the role of the government in supporting innovation. See OM page 27 paragraphs 59.

Market failures are said to occur in this context due to the failure of investors to commercialise innovative developments because of the perceived commercial risk, not necessarily because of technical risk. While it follows that where there is technical risk there is also commercial risk, it does not follow that where technical risk is

⁸ “Powering Ideas An Innovation Agenda for the 21st Century” Department of Innovation, Industry, Science and Research 2009 page 6.

absent there is no commercial risk. For example there may be commercial risks associated with uncertainty about the market for the product of the R&D.

In addition, as we have noted above, researching to establish an innovation is merely the first step in what might otherwise be a long process of developing and subsequently commercialising the innovation. It is important to recognise that incentives have a role to play throughout this whole process.

The tax credit can provide the impetus for the claimant to take the first step which, might not be technically risky, but provide an incentive to investment in further stages of the development which may then entail high levels of technical risk. Surely such outcomes are highly desirable and an effective use of the public purse.

Having offered the above comments, our experience suggests that projects requiring only innovative activities with no technical risk are quite rare.

The case of a project in which there are “activities that involve high levels of technical risk but are not inherently innovative ...” provides a challenge. These types of projects are more common than the converse and, as the Consultation Paper indicates, they are often a characteristic of production/manufacturing businesses. It is our experience that for many projects characterised by high levels of technical risk, the researcher places emphasis on obtaining a solution to the problem, as the foremost goal of the R&D.

The pathway to the solution may result in new knowledge being obtained and some consequential innovation emerging but this is seen as secondary benefit. It is most likely that new intellectual property will have been created. To what extent these “after-the-event” outcomes can be used to claim that eligible R&D has been conducted may be debatable. We recollect – but cannot identify the source of – a dictum to the effect that an innovative outcome is not proof that an innovative activity has been carried out. The matter warrants further investigation

Additional note on Innovation

We note in passing that the Consultation Paper does not discuss “innovation” in any detail and presumably this means that the definition and characteristics of innovation as outlined in the Guide Part B (Ref 5) page 16 will continue to apply. They are relatively demanding. By contrast we note that the OM page 19

paragraph 27 and page 47 paragraph 131 in discussing “innovation” provides the following comment:

“The minimum entry is that the product or process should be new (or significantly improved) to the firm (it does not have to be new to the world)”.

This seems to us to be a much lower threshold of innovation than is currently being applied by AusIndustry reviewers and supports our view that the FM and OM do not provide more constraining requirements or narrower definitions than the present Guides.

Recommendation/Conclusion:

Should it be necessary to proceed with the conjoint definition of eligible R&D requiring both “innovation” and “high levels of technical risk” we recommend that certain exceptions be made for R&D projects that are recognised as purely “basic research” and do not have an experimental component.

We recommend that if the conjoint definition is implemented, that claimants be given several (perhaps 2) years over which they can demonstrate that the project has involved, or will involve, both innovation and high levels of technical risk. How this can be done, might require a change in the format of the Activities List of the Application.

We submit that suggesting a project which has no technical risk should not be eligible because it will be merely receiving a subsidy for what otherwise would be a commercial success, is a flawed argument and we have provided our reasons.

Supporting (Related) R&D Items 56 to 72

As the Consultation Paper suggests, there are a variety of ways to deal with issues such as the degree of “relatedness” between a core and a supporting activity which can be applied to all projects. But if the problem is a concern about excessive expenditure on supporting activities (because these costs are frequently large) and a perception that some claimants may thereby abuse the system, we would advise a more direct approach to its resolution.

Clearly the point of concern here is the quantum of any claim and the burden it places on the program. Therefore we suggest, set an upper limit to the expenditure to be claimed for any supporting

activity and require claimants who are planning to exceed this limit, to lodge Advance Registration. For example, set a limit of \$5m over 3 years or less, with penalties to be imposed on any claimant who disaggregates a project to avoid the cap.

It can be justifiably assumed that a claimant proposing to spend this sum of money is a large business entity. It should have in place adequate resources in its planning and accounting departments. It should have tools such as enterprise software, to be able to prepare high quality detailed expenditure forecasts and budgets and plans for scheduling the activities on which expenditure will be incurred. If not, they should strongly be discouraged from carrying out the project at all, as they will be probably be wasting everybody's money.

Advance registration provides a review process by which such planned expenditures can be properly assessed and provide assurance to both the claimant and the administrative bodies that the expenditure will be eligible.

This approach will be simpler and more effective than capping as a proportion of core or a reduced rate for supporting activities. Some of the other proposals in the Consultation Paper such as 64, 65 are unnecessarily punitive to production industries and 66 to 70 are unnecessarily complex.

Recommendation/Conclusion:

We suggest that a cap be placed on supporting activities that exceed a threshold (e.g. \$5m over 3 years) and where projects exceed this cap, they become the subject of advance registration which would include the submission of the R&D Plan. The issue of how "related" each supporting activity is to the core activity of the project can be then be properly assessed. No doubt this will increase the administrative burden of the program but it is better to have acceptance of eligibility in advance where such huge expenditures are involved as opposed to rejection of eligibility after the event. Many of the other proposals for "reigning in" expenditure on supporting activities can only operate as rejection after the event and will be equally burdensome on the administrators.

Excluded activities

We do not support any increase in the stringency of excluded activities. As we have noted in the beginning of our submission, incentives to carry out supporting activities which are directly

related to core activities is at the very heart of the program and excessive restraints will do more harm than good.

Software R&D, Items 73 to 77

Guide Part B Ref 5 page 27 provides a list indicative of the types of software development activities likely to be considered as R&D. The claim is made that this list is taken from the FM. On examining the list of examples quoted in the current version of FM we note that there are some additional activities that the FM recognises as R&D such as the: "Development of Internet technology". This would give many proposed software projects broader scope for inclusion as R&D than the current Guides suggest. Although we recognise that in 2002, the "development of internet technology" may have been viewed as more technically risky than it is in 2009!

The Consultation Process also invites comments which are not directly discussed in the paper itself but relate to the program overall. We therefore take this opportunity to raise a problem in the way in which the Guide Part B treats software R&D. We have seen the impact of this problem in AusIndustry reviews of software R&D that we have attended.

The problem is that the Guide does not make it clear that R&D in software should be considered, as in other areas of R&D, as consisting of both core and the supporting activities.

The Guide Part B page 20 provides a general definition of R&D. We specifically to draw attention to item (b) which effectively states that a supporting activity is, by this definition, R&D. Page 21 then provides a list of excluded activities but goes on to note the following proviso:

"While the above exclusions are by definition not SIE activities, they *may* be eligible as directly related activities. In such cases, there must be a direct relationship to the undertaking of the SIE activities".

This gives effect to the recognition as R&D, of some excluded activities because, in the appropriate context, they qualify as supporting activities.

Now if we refer to page 29 of Guide Part B, where software R&D is discussed, we are provided with a list of "Software-related activities of a routine nature (which) are not considered to be SIE activities". We would regard this as effectively being the same as a

list of excluded activities. If so, then the above proviso should also apply here.

That being the case, some of these activities in the list will be treated as totally excluded e.g., “post R&D activities such as preparation of user documentation and maintenance of existing systems;” whilst others, such as “data migration from one system to another” may be a necessary supporting activity to an activity listed as R&D in the table of page 27 and thus qualify as R&D.

We would reasonably expect that any newly developed software should be subject to “debugging” to identify and remedy errors. It is the analogue of experimental verification of the validity of the innovation. In such circumstances the debugging activity is a supporting activity and becomes a component of eligible R&D. We have experienced instances where an AusIndustry reviewer, when assessing a software R&D project, recognises only activities in the table of page 27 as eligible R&D. Some clarification on this matter is needed.

(As an aside we note that the FM attempts to deal with supporting or related activities by using a test based on “... a particular project may be R&D if it is undertaken for one reason, but not if carried out for another ...” (page 34). In relation to software this principle is applied in paragraph 142:

“In the systems software area, individual projects may not be considered as R&D but their aggregation into a larger project may qualify for inclusion”.

We believe that when the FM refers to “projects”, it also means “activities”, but this is not clear. The FM approach is not particularly useful in this regard. We note that the FM has an entirely different definition of “supporting activities” – see page 19, which is quite different to that of the Guides, so there can be some confusion arising from the different terminology).

Recommendation/Conclusion:

The eligibility of supporting activities in software R&D requires clarification.

There is a further matter that needs to be considered in the software area. Many new software projects are initiated because the developers have identified a new business model. They may have also identified a method by which it can be implemented through stand-alone software or a web-based application. The

implementation may involve some innovation e.g., a new algorithm, or involve solving a problem that would be regarded as involving a high level of technical risk. We suggest that is appropriate to treat these types of projects both as the creation of a new service and a software project.

Recommendation/Conclusion:

Software projects should be judged not only on the basis of the creation of innovative or technically risky code but also on the basis of any new business model that underpins the project.

We appreciate the opportunity to offer comment.

Paul Scammell

Noam White