Vision Systems

SUBMISSION TO THE SENATE ECONOMIC LEGISLATION COMMITTEE ON THE TAXATION LAWS AMENDMENT (RESEARCH AND DEVELOPMENT BILL 2001)

The following submission to the Senate Economic Legislation Committee is made on behalf of Vision Systems Limited and its related companies. The Vision Systems Limited group carries out extensive research and development activities both on its own behalf and on behalf of Australian and overseas third parties.

Through research and development activities the Vision System Limited group has carried out on its own behalf, it has generated export sales in the last financial year of products it manufactures in Australia of around $A100 million.

The group through its wholly owned subsidiary, Invetech Operations Pty Ltd has R&D capability that is recognised both in Australia and internationally. In the last financial year the group generated $A22 million from R&D activity conducted on behalf of third parties of which $A14 million was from non Australian parties.

1. EXECUTIVE SUMMARY

1.1 The introduction of the 175% deduction for incremental R&D spend over a 3 year moving average is a positive step but has weaknesses:

- it is a one year to one year approach to R & D programs that, in reality, most often take 2-3 years to complete;
- it rewards one year “blip” behaviour when long term and sustained R&D activity is what is required.

1.2 This Submission proposes changes to this model.

1.3 Australia is a long way from key markets and decision makers and has a very small domestic market by international standards. This makes the task of defining the product specification at the front end of any R&D program even more critical. Relative to Australia's offshore competitors this can be a high cost front end to the program, yet is a critical determinate of success and returns on the R&D spend by both the company and the community. Specific product specification should remain an included task as an eligible activity under the tax concession to encourage more companies to undertake this vital task more thoroughly.

1.4 The measures should ensure that, as often occurred in the past, compliance costs do not exceed the benefit of the tax concession, particularly having regard to the current parameters of 125% deduction and a 30% corporate tax rate. When these costs are coupled with industry suspicion about future policy reversals, ATO audits and mixed messages coming from DISR and the ATO at times in the R&D area, the project documentation and board approval process requirements need to be kept simple, practical and uniform.

1.5 In particular the retrospective application of the requirement to implement R&D Plans in order to qualify when the guidelines with which those plans must comply are not yet available (and may not be available for a period of up to 90 days after Royal Assent is received) is unacceptable.

2. SUBMISSION

2.1 Australia's Business Expenditure on R&D (BERD) has been in decline since the Federal Government cut the Tax Concession for R&D from 150% to 125% four years ago. While the decline was originally claimed to be an aberration because of the closure of syndicated R&D, this claim is simply not supported by the facts. At the grass roots level, the number of companies registering for the Tax Concession fell by 15% in 1997/98 to 2,500 companies. This statistic has almost nothing to do with Syndication. It is even more sobering that only 2,500 companies in total across Australia can either be bothered to either register for the concession or are doing any meaningful R&D. What is not clear is whether the changes mooted by the Bill will change this position.

2.2 For decades, Australia's spending on industry based R&D has been way down the international league table. **Figure 1** shows where we sit for total (Government/Higher Education and Industry) R&D spend as a percentage of GDP. What is clear is that our spend in the Government/Higher Education sector R&D is adequate and indeed we run a world class basic science outfit.

2.3 What is equally clear is that BERD in Australia is very low by world standards. Indeed out of a list of the top 24 OECD countries Australia ranked 19th as a percentage of GDP list. Our BERD/GDP was 0.80%, the average was 1.6%. Sweden, the leading country had a BERD spend of 2.7% or more than three times that of Australia.

2.4 The imbalance in Australian R&D spend, biased towards the Government R&D sector is at the root of Australia's poor commercialisation track record, growing Current Account Deficit and the declining participation in the international trade of knowledge based products and services by Australian enterprise.

2.5 Poor commercialisation is **not** the result of "un-commercial" basic science activities. Basic science, in the time frame of public company reporting, is by definition pre-commercial. Requiring agencies that are world class basic science operations to get "commercial" as a solution is a nonsense. When Alexander Graham Bell invented the first telephone, it was a great break through, but what was the first phone worth? Not much - who are you going to call? As the network of operations grows, then the last phone sold of millions in the network is very valuable. So in an Australian context, who are the scientists going to call? Without a healthy, **world scale** industrial R&D base which **sells goods and services on the international market as a primary mission** - there is nobody to answer.

2.6 Out of the 1999-00 Federal Budget the **industry based** "catalysing" spend by Government represents 17% only of total R&D outlays:

	A$m
R&D Start Grants	161
Tax Concession	406
Other Industry Innovation	98
	665
Government, Higher Education and other	3,288
	3,953

2.7 CSIRO alone receives $700m versus $665m **direct** to industry. Perhaps funding to industry should be put up by 50%, CSIRO's **direct** funding reduced by 50% and then let market forces of who provides industry based R&D prevail. Certainly the current approach is not working.

2.8 Four years ago the Federal Government cut the 150% Tax Concession for R&D to 125%, narrowed the definition of R&D and introduced a Grants scheme - "Start". The negative impact has been significant. Expenditure by industry is declining sharply and in 1997-98, the number of companies registering for the tax concession fell 15% to just 2,500.

2.9 The dramatic fall in the number of companies registering for the Tax Concession could be the result of those companies reducing their R&D spend (popular press surveys and IR&D statistics support this) combined with the now marginal economic benefit of the Tax Concession compared with the hassle of compliance.

2.10 With the corporate tax reduced to 30%, the after tax benefit of the 125% Tax Concession is reduced to 7.5 cents in the dollar. Clearly better than nothing. However, after compliance costs are taken into account there may be no or little net benefit!

2.11 On the positive side, the lower corporate tax rate will increase the amount of cash left in the company to fund "discretionary" spends like R&D. However, given that the market forces (failure) have not pushed Australian companies sufficiently in the right direction of investing in R&D to enable them to compete internationally, the 'arrival' of extra cash is not likely to change managerial/Board investment behaviour particularly given shareholder demand for the distribution of profits through dividends..

2.12 Who cares, some ask. There have been endless studies inside DIST and around the world that demonstrate the economic benefits (direct and indirect) of a healthy **industry**-based R&D activity. It is clear where the pattern of world trade is heading and this pattern does not happily overlay well on the goods and services Australia has to offer.

2.13 We believe that the Tax Concession mechanism is the best to drive change and encourage economic behaviour that is in the long term interest of the Country. R&D Tax Concessions don't need to, and should not be designed to, pick winners: companies must invest the cash **before** incentives are received and they must be **successful** (ie profitable) to get their investment back. R&D Tax Concessions gear successful companies to do more R &D through the reduction in their tax outlays (if indeed they would otherwise be in a tax paying position) and should focus public funds towards those with track records.

2.14 The decision to cut the Concession to 125% and replace it with the Start Grant system which was biased to the small company, high risk end of the spectrum and which required committees in Canberra to pick winners was a risky formula when the clear problem is the level of overall spend in industry based R&D. Clearly that risk was not rewarded.

2.15 Focusing on the small end of the R&D spectrum just does not sufficiently gear the public dollar to make a difference in making Australia innovative and a knowledge based economy. Companies like General Motors, IBM and Hitachi spend more on R&D than the entire BERD in Australia!

2.16 The level of Australia's BERD that had taken more than a decade to build up, has in just a few years since the decision to cut the concession , been significantly reduced. If the BERD spend keeps declining at the same rate, within four years it will be back to the same dollar value as a decade ago. A great deal has changed in the technology intensity of community and business activity in that decade.

2.17 The changes to the Tax Concession proposed by the Taxation Laws Amendment (Research & Development) Bill 2001 in some ways perpetuate the same small company high risk bias as the Start Grant scheme.

3. AN ALTERNATIVE MODEL TO THE PROPOSED 175% DEDUCTION

3.1 In our view, the 175% tax concession proposed by the Bill should not be based for its application on an entity's incremental year by year spending on R &D. The addition deduction should be based on the R&D spend as a percentage of sales ('**R&D Intensity**') of that entity and should be increased as a percentage as the entities' R&D Intensity increases.

3.2 In basing the concession on an entities' R&D Intensity, profitable, high R&D spenders with the a proven ability to commercialise and market product in the world market will become the focus of the public spend. This stepped approach would provide a greater incentive to those entities that spend a greater proportion of their sales income on R&D.

3.3 While the presently proposed 175% deduction for increased annual R&D spend over a 3 year moving average proposed in the Bill is a helpful and positive step, it does not recognise that most commercial R&D programs necessarily run for 2-3 years.

3.4 Further, given the incremental nature of the proposed 175% deduction, its implementation may generate one year "blips", when what Australia needs is for industry to undertake long term, sustained higher R&D spends.

3.5 In our submission, a more effective concession than that proposed in the Bill would be one that allows a deduction for R&D expenditure at a rate greater than 100% by reference to the company's R&D Intensity.

3.6 Under such a proposal, there would be no deduction for R&D spend beyond 100% unless that R&D spends exceeds 2% of the company's sales. The additional deduction would increase as the percentage of a company's R&D spend to sales increases. The table set out below illustrates the proposal.

3.7 The rationale for proposing that the additional deduction be available in this way is that R&D spends at levels below 2% suggest that the business is not incorporating R&D or technological innovation at the heart of its business strategy.

3.8 On the other hand, businesses that are profitable (tax concessions only reward profitable, successful enterprises) and are high R&D spenders are almost inevitably going to be exporters. The Australian domestic economy is too small for companies to achieve the sales levels required to carry the R&D. Again, this is a self selecting and positive attribute of our proposal. It is also arguable that almost every value adding business should be spending at least 2% of its sales on R&D.

R&D To Sales (%)	**No of Companies**	**R&D Spend 97-98 ($m)**	**125% Cost to Revenue ($m)**		**Proposed R&D Tax Concession (%)**	**Cost as Tax Concession ($m)**	
			36%	**30%**		**36%**	**30%**
8% +	10	313	28	23	200%	108	94
6-8	5	58	5	4	175	16	13
4-6	9	68	6	5	150	12	10
2-4	22	281	25	21	125	25	21
0-2	2,000 est	3,280	295	246	100	0	0
			359	**299**		**161**	**138**
				(-17%)			

The table above was based on data published in "R&D and Intellectual Property Scoreboard 1999" edited by Mark Rogers and Simon Feeny.

3.9 Based on the 1999 R&D Scoreboard data, the table shows the split of R&D spend as a percentage of Company sales into bands. Only 46 companies of the 2,500 companies registered under the Industry Research and Development Act spent more than 2% of their sales on R&D in this survey.

3.10 The table compares the existing 125% Tax Concession and the Cost to Revenue of the proposal that the additional R&D deduction increase in line with the R&D intensity. The Cost to Revenue has been based on both the previous 36% corporate tax rates and the now applicable 30% rate.

3.11 While the numbers are no doubt rough, the indications are clear. Even at a zero incremental Cost to Revenue from the existing 125% Tax Concession, it is possible to stratify the concession to accelerate high intensity R&D and push more companies to higher levels.

3.12 It should be noted that an 8% R&D spend as a proportion of sales is a modest target. Most international technology based companies spend in excess of 10% of sales revenue on R&D. Australian companies need to match that spend to compete successfully on the world market. The availability of the one year 175% acceleration for R&D expenditure as proposed by the Bill will not of itself achieve that increase in a sustained way.

3.13 Hopefully, the implementation of the alternative proposal will push more companies into higher R&D spends and the gap between the $138m Cost to Revenue of the tax concession using our proposal mapped into the 1997/98 R&D scoreboard versus the $299m cost under a flat 125% concession (or more under the 175% concession), will fund the results of the cost to revenue of additional spends by businesses. Again, it is noted for there to be a cost to revenue, companies must themselves invest first and then be successful and profitable.

4. ROUTE TO MARKET ISSUES

4.1 A major barrier to success of Australian based technology companies is the "route to market" costs. The Vision Systems Group spends about 10% to sales on R&D and 20% to sales on route to market costs, ie getting a customer to be aware of and provide mechanisms to buy the product. Over 90% of what the Group manufactures is sold overseas and this creates major offshore infrastructure costs. Yet this area is the single biggest determinant of success and is higher risk than R&D.

4.2 The reasons for this are:

- R&D on complex high value products costs effectively the same world over and can only be carried by selling to world markets. Technology intensity requires a global view.

- Australia has a tiny domestic market compared with our competitors (New York's GDP" is twice Australia's)

- A strong and sizeable domestic market provides a low cost launch pad for exports, sometimes at marginal overhead costs - Australian companies do not enjoy this

- Australia is a long way from the decision makers and the markets that count. This is critical in the costs of shipping, taxes and knowing what is happening day to day.

4.3 These factors represents significant disadvantages to Australian based activity and a high risk component of successful exploitation. Therefore the establishment of the correct product specification through extensive, off shore market research is a critical determinant of success in commercialising scientifically successful R&D.

4.4 It is submitted that the task of product specification and directly related market research should remain an eligible expense for the purposes of the concession.

5. CONCLUSION

5.1 It is believed that if these measures were incorporated into the Bill they will provide:

- an increase in **industry** based R&D activity
- improved offshore exploitation of the R&D
- accelerated pull through of Government-based R&D.

5.2 Finally, for the teams in these Government Labs, there would be someone to call!

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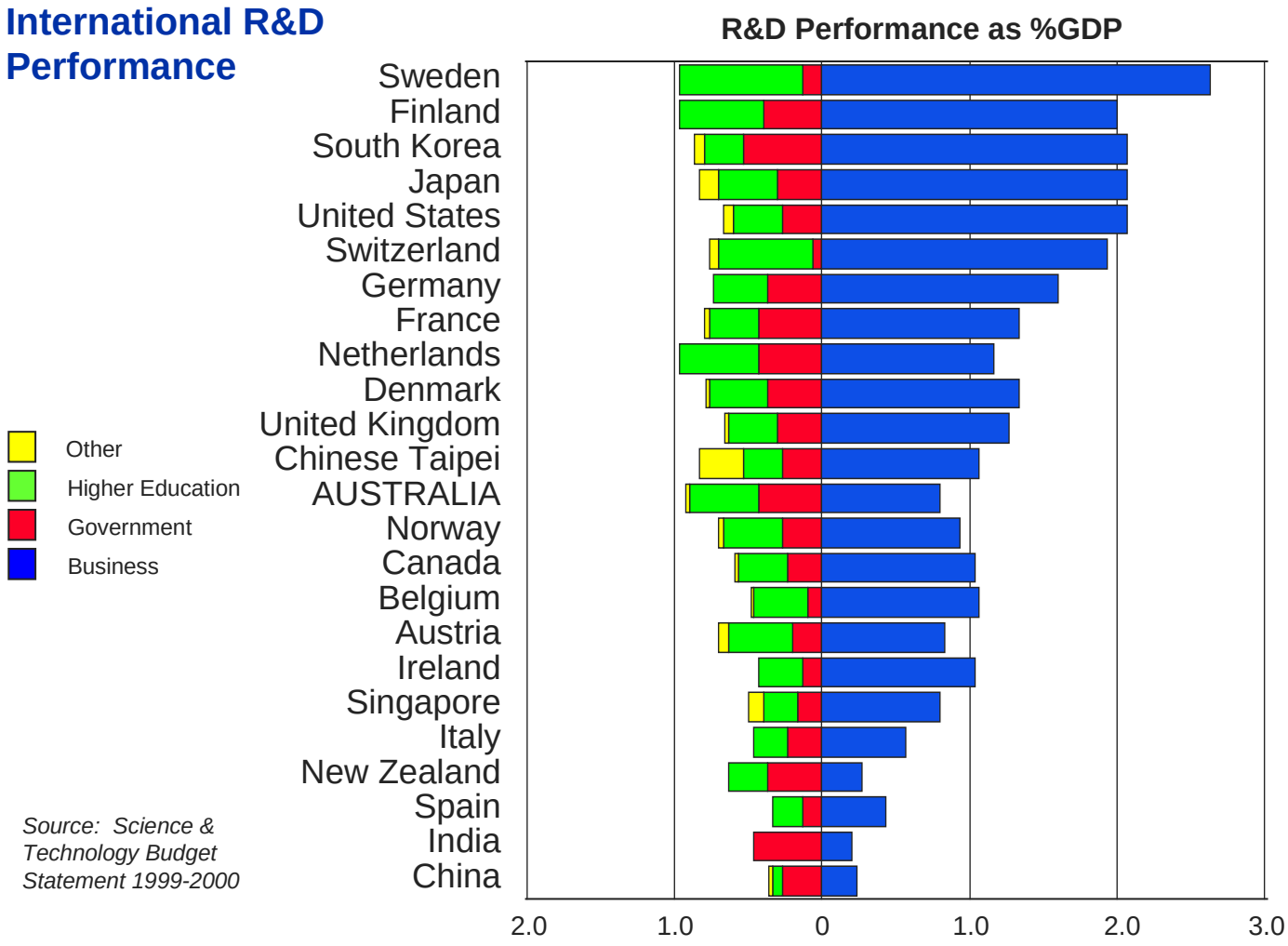
FIGURE 1


International R&D Performance
R&D Performance as %GDP
Sweden
Finland
South Korea
Japan
United States
Switzerland
Germany
France
Netherlands
Denmark
United Kingdom
Chinese Taipei
AUSTRALIA
Norway
Canada
Belgium
Austria
Ireland
Singapore
Italy
New Zealand
Spain
India
China
Other
Higher Education
Government
Business
2.0
1.0
0
1.0
2.0
3.0
Source: Science & Technology Budget Statement 1999-2000