Client: SCOTTISH ENTERPRISE

Copywriter: Paul Dunwell, for SCOTT STERN

Project: Bob Downes's speech before the i - TV ' 96 Conference at The University of Edinburgh

Synopsis of Brief: Interview contributing colleagues, draft speech to incorporate bulleted lists to appear in OHPs, and draft complementary hand-outs for attendees. Design for repeat use.

Reference Key: not applicable on draft

Bold type	-	Slide texts (optionally spoken to & copied to hand-outs)
Underlined	-	For information and guidance only
Standard	-	Spoken
Italicised	-	Emphases

SLIDE 1: Speaker ID

Bob Downes Director Industry and Skills
Scottish Enterprise Network Management Group

'Doing IT in a Kilt'

'Introduction:Ladies and gentlemen, let me introduce myself. My name's Bob Downes, and I`m (the) Director (of) Industry and Skills within the Scottish Enterprise Network Management Group.

I anticipate that I shall speak for just 30 minutes; the essence of my presentation, together with a directory of useful contacts, has been distilled into the complementary hand-outs you should have already received. You may find these hand-outs useful as aides-memoires. Failing that, should I falter under the glare of such auspicious company, please feel free to use them as prompts.

My specific purpose today is to acquaint attendees with Scottish Enterprise's involvement in the software industry. However, before I coyly parade our achievements along the Virtual Catwalk, for anybody here who may be entirely unfamiliar with the Scottish Enterprise Network I perhaps ought to very briefly summarise the umbrella organisation thus:

Established by Act of Parliament in 1990, and today serving a geographical area which covers some 93% of the Scottish population, our current budget of £ 472 million is used to help generate jobs and prosperity for the people of Scotland.

I should also explain that Scottish Enterprise Glasgow is not the head office per se, but national as well as more local programmes are coordinated from here - programmes like EU enterprise opportunities, as well as, notably, Locate in Scotland and Scottish Trade International.

It is impossible to fully quantify the benefits of Scottish Enterprise's endeavours, since these are self-evidently osmotic and will continue to trickle down - year-on-year - throughout the broader population. We work on the twin assumptions that the costs to the nation of early and proactive intervention are likely to be cheaper than the costs of tardy reactive solutions, and that the benefits of foresight can be summed up as being akin to those of the early bird getting the worm.

What I can do is relate some impressively hard facts to support the contention that we are a cost-effective organisation. During the last year our activities have included:

SLIDE 2: Scottish Enterprise - Achievements 1996
* Attracting 84 projects worth, in total, £ 981 million
* Assisting 15,000 companies, including 5,000 business start-ups
* Creating or safeguarding over 12,000 jobs through inward investment
* Helping to generate an additional £ 110 million worth of exports
* Awarding over 20,000 vocational qualifications
* Levering almost £ 100 million from the private sector for physical business infrastructure, and
* Assisting over 9,000 long-term unemployed to find full-time employment.

Key development sectors are: Biotechnology, Food & Drink, Textiles, Tourism, and the Information Industries (which include the Electronics Industry). It is on the last, but not least, of these which I will now focus - but I ask you to bear in mind that, in a sense, divisions are arbitrary since there is no longer any sector which need not exploit the competitive advantages of being on-line if it is to guarantee its survival into the 21st century.

We at Scottish Enterprise continue to be concerned with the nuts and bolts of Manufacturing. Historically, Scotland has carved out an impressive niche in hardware manufacture and assembly - currently some 35% of European PCs are made here. This is then, by any parameters, an ongoing success story.

However, it has become increasingly apparent that the Software Industry and its Associated Service Industries worldwide - and here in particular - have the far more lucrative potential. Why in Scotland? Because Scotland has several key differential advantages which are worth enumerating:

SLIDE 3: Scotland's Key Differential Advantages
i.) Its first-rate infrastructure - taking 'infrastructure' , in its broadest sense, to incorporate property and land, transport, quality of life including education, and governance (and, notably, the strides towards a liberal and competitve economy which de-regulation have brought)
ii.) Within Western Europe, our relatively cheap but well educated labour-force, and
iii.) Proportionally more computer graduates than any of its European counterparts

Currently Scotland is, as a result of these advantages, ahead in the game. However, to ensure that Scotland stays ahead it is necessary to take bold, proactive and imaginative measures to pre-empt those initiatives of competitor nations. That is why today I shall concentrate on our complementary interests and activities in Software and Applications.

Body Text:

Our aims within that sector - throughout what we like to term 'The Software Community' - are two-fold:

SLIDE 4: Aims for - and on behalf of - the Software Community
i.) Helping the domestic Software Industry to grow, and
ii.) Helping domestic industry and commerce to adopt competitive technologies - technologies which are recommended objectively by Scottish Enterprise, and solely on merit (which means that they may not necessarily be Scottish).

How might we best achieve these aims? Well, several notably effective instruments spring to mind - all of which satisfy our acid-test investment criteria viz 'no investment without tangible business benefits'. Benefits, of course, are not strictly limited to the lucrative. But benefits are predominantly one's raison d'etre. That's why those who are responsible for designing and overseeing the Scottish Enterprise initiatives I'm here to promote today are (because they've been poached from thriving

commercial concerns on account of their mould-breaking expertise in the relevant sectors) well aware of the need to generate benefits. Let's be right; Scottish Enterprise aren't some kind of raggy-kilted philanthropists.

SLIDE 5: The Software Echo

A) 'The Software Echo' - the high-quality quarterly information & sales magazine, now in its 22nd edition, with domestic & international circulations of 7,000 apiece.

I mention this first because a riffle through it should be sufficient to give readers an overview of the extent and scope of the reverberations of Scottish Enterprise's hands-on involvement with the Software Industry it's trying to support.

Copies of that 22nd edition, fresh from the press, should be available here for delegates. I'm party to a sneak preview - rank has its privileges, you know - and I can reveal that it contains some fascinating updates on the march of multimedia. There's a Kilmarnock-based company called Alchemedia, for example, which is marketing an Engine Repair Capability CD with assistance from the Greenwich Caledonian airline engine repair plant - the world's largest independent operator. Apparently what this CD doesn't tell you about repair capabilities on 26 types of engine spanning sites the length and breadth of America and Europe isn't worth knowing.

So much for big business. But software is a lifeline for the little guys too. I read that 2 billion dollars' worth of direct sales have - officially - been made over the World Wide Web during the past 12 months. And I'm reminded that one recent edition of the Software Echo sported such gems as a kilt manufacturer's tale of how logging on to the Net through a local service provider brought over 1,000 international e-mail enquiries during the first 3 months. So, if there are any Sassenachs here who don't know where to find their skean dhus (and even we naturalised honorary Scots know that), now they know where to look.

SLIDE 6: SoftNet

B) SoftNet - a network infrastructure of 7 (and soon to be 8) software development centres where 'early existing' companies - not start-ups, but trading companies with revenue streams - work in tandem with local enterprise companies.

The first of these centres was established in 1992 on a site shared with Hewlett Packard at South Queensferry near Edinburgh, and subsequent centres have similarly enabled a string of emergent software-developing enterprises - the chosen ones - to benefit from the advantages of being located in such clusters. These advantages might be summarised as:

SLIDE 7: Advantages of SoftNet Clusters

a) early enjoyment of a high-level infrastructure environment
b) minimal management overheads (e.g. reception and security costs)
c) associations springing from physical proximity
d) access to Scottish and global networks
e) attraction of investors to centres
f) press and PR exposure
g) close liaison with The Scottish Software Federation (i.e. the industry body for software in Scotland)

Clearly such advantages put selected companies on the fast-track. Enjoying such abundant benefits - even if SoftNet's hospitality cannot be extended forever - they're expected to succeed. And - in the main - they do. However, you can still lead a horse to water only to discover it's a Dog!

One example of a Star which springs to mind is that of Axon Networks. They enjoyed 3 years of a cloistered existence, having originally joined SoftNet with 3 staff in 1993. Early this year, having grown to 30 staff, Axon was bought by the US concern 3COM. A snip at 43 million pounds!

Lastly on the subject of SoftNet, I can give you a few statistics to illustrate its achievements:

SLIDE 8: SoftNet Achievements

a)	companies located in SoftNet centres	-	50
b)	total enrolment	-	300
c)	number of inward investments	-	12
d)	gross turnover p.a.	-	£18 million

This brings me to SPAN. With an 'n'. As in bridge. And not to be confused with the meat of legends.

SLIDE 9: SPAN

C) SPAN - an acronym for Smart Partnerships Across Networks; Scottish industry burns rubber on the information super-highway.

The SPAN programme is designed to act as a catalyst for the development of projects which can demonstrate tangible business benefits (rather than simply technology adoption) of a broad-band information superhighway. I'll summarise just what has motivated Scottish Enterprise to launch it.

SLIDE 10: Why Reach for SPAN? (Part I)

a) Overseas initiatives like the USA's National Information Infrastructure and Singapore's Intelligent Island
b) EU proposals based on the recommendations of the Bangemann Group, proposals relating to the planned Europe-wide liberalisation of telecommunications by January 1998
c) Growing demands by multinationals for ready access to advanced data communications networks - vital to inward investment decisions

SLIDE 11: Why Reach for SPAN? (Part II)

d) Competitive threats from overseas SMEs (i.e. Small to Medium Enterprises) -
   e.g. Tempe Precision toolmakers
   + Kachina Testing (EMC testing)
   + McDonnell Douglas
   + Digital Equipment Corporation
   = a partnership using virtual meetings to reduce costs and time to market
e) Need to educate and improve Scotland's stock of intellectual property
f) Need to boost business birth-rate, reduce neo-natal mortality, and to increase exports by connecting Scotland to global markets
g) Need to attract FDISo much for motivators.

The eagle-eyed amongst you will have surely noticed that most of these motivators imply a de facto need for reactive intervention. The onus is on the Scottish Software Industry - and all those who can benefit from it - to get their roller-blades on. Our wheels are already in motion. The SPAN programme has 4 operational strands:

SLIDE 12: SPAN's strands:

a) Encouraging practical multi-partner demonstrations of new software applications which have broad implications across a gamut of Scottish businesses

b) Establishing a focal-point for independent expert advice on, and public/private sector cooperation in, information society developments

c) Influencing infrastructure providers including the UK government, the EU and G7 in any policy decisions which relate to universal and economic telecoms access

d) Informing Scottish SMEs of the benefits of skilful utilisation of the superhighway

Before I leave SPAN, I should emphasise that in common with all other Scottish Enterprise programmes it is designed to integrate with - and be complementary to - its fellow initiatives.

SLIDE 13 MatchMaker

D) MatchMaker - Scottish companies put their heads together with their indigenous or overseas buddies. Cooperative arrangements already exist with California, Boston, MIT, and Virginia.

MatchMaker exists to facilitate both domestic and international cooperative ventures. It cannot do this, of course, without having sufficient information at hand to know precisely how best it can serve the interests of the Scottish Software Community. Its modus operandi therefore involves both inward and outward searches for partners, grants, sales leads, EU programmes and trade missions - and that is by no means a comprehensive inventory of their remit.

It should be sufficient to say that MatchMaker was shown by a recent survey to be, by a broad margin, the most commonly used export support service used by Scottish companies.

The benefits of this scheme, in terms of a measurable increase in exports alone, are estimated to be between £ 10 and £ 15 million per annum.

Bridgeheads into the UK have traditionally been in the South East of England. I don't need to tell you that the best markets are not necessarily there, and that most markets in the South East are fairly well saturated already. That is particularly the case in respect of Telecommunications; the South East could therefore be described in industry parlance as tele-dense. But what about Scotland? The question's crucial because without cables down holes we're non-contenders in the dash for gold - in effect we're up silicon creek without a paddle!

SLIDE 14: Telecoms Mission Statement

E) Telecoms - enjoying the invidious advantage of being essentially a non-repatriable resource, it exists to ensure that any significant economic actor will have access to a number of telecom companies, able to provide for their requirements.

If that is not the case, the services of the universal service carrier should meet in full the requirements of business.

Scottish Enterprise's telecoms executive aims to ensure that adequate provision extends beyond the bounds of Glasgow - out into the sticks, to those remote places which may not represent the most lucrative prospects for the likes of BT. The Software Industry, of course, has seen successful start-ups in the most unlikely locations. Telecoms are critical to it because, apart from intelligence, they are its only indispensible pre-requisite. Give us telecoms and every glen can ring to the sounds of silicon.

We do have levers. OFTEL is one. We also support new indigenous telephone companies which require licences from the DTI. We encourage inward investment by providing that mainstay - an effective information service. And we work with fellow bodies which share our goals. The Glasgow Development Agency, for example, recently supported CableTel by sponsoring a very public business breakfast.

Being the sort of person who likes to save the cherry til last, I' m now going to spend the remaining moments talking about our attempts to encourage competitive business through high-performance computing.

SLIDE 15: High Performance Computing

F)	High Performance Computing	- principally though partnership with the prestigious EPCC (i.e. the Edinburgh University Parallel Computing Centre), we provide access to computing technology and expertise to identify optimum solutions to staggeringly complex design and logistics problems.

I'm told that I should immediately dispel this 'impracticable rocket-science new-fangled academic toy' image, an image which is no longer deserved. Such computers (and the EPCC has the most powerful in the world of its type outside the Pentagon, by the way) are available and accessible. And, more importantly, they can make you money - a fact which I'll illustrate in a moment.

The origins of supercomputers were in Big Science, where we needed powerful computers to process experimental results. Ultimately those experiments have become an unnecessary expense as supercomputers have evolved into Virtual Laboratories which can either abbreviate or replace physical procedures altogether.

How can you use them? For Computing Science (simple number-crunching, that is) or for Computational Science (by which I mean experiment within the computer). Either way, using high-performance computers can give your company the break - call it a quantum leap if you like - which you may need more than you realise. It is vitally imporant to realise, though, that High Performance Computing doesn't necessarily require big bucks; the techniques rather than the equipment are at the heart of the project. These techniques can be applied in situ, within the comfort of your ambient working environment. And the applications are scalable.

I'm told that one of our partners recently commented ' When we had just 10 machines we could do it in our heads; now that we have 25 we can't'. The irony is, of course, that even at the 10-machine stage the company wasn't likely to have calculated the optimum solution. So, if it had enjoyed earlier access to the EPCC, it might have been a 30-machine operation by now. We're talking big-time opportunity costs.

I'll give you some further illustrations of current applications. The Met Office uses a supercomputer to simulate and anticipate the chaos that is Scottish weather. Motor vehicle manufacturers use them for crash-simulation and structural design. Even small companies (of perhaps less than 25 staff) have used them to optimise production schedules at crucial moments like when re-tooling imposes a dangerous lack of flexibility which could lose a large and important order. Scotland's oil industry uses them to optimise production pocesses. They're used as flight simulators and for the computation of fluid dynamics. And they're being commandeered for software conversion projects - upgrading performance.

Scotland's universities are complementing abstract theoretical perspectives with practical applications research. Educational institutions - like Edinburgh University, which is at the very forefront of neural computing for example - are providing consultancy services to industry. It works like this: today we

teach a computer to recognise a simple pattern of visual stimuli: tomorrow we teach it to recognise a face at the cash-point.If I've whetted appetites, that's purely intentional.

Obviously such services don't come free, but initial feasibility studies are sponsored in the main by Scottish Enterprise. Subsequently there's also the prosepect of assistance from local enterprise companies, and fully-fledged projects tend to be a success.

Outro:

To conclude I'd like to recap on what we have to offer, I'd like to assure you that the standard of our service - because all of our schemes are perpetually monitored and measured - is good and should only get better, and I'd like to invite you to take that first step and open a dialogue with us.

SLIDE 16: Summary of Software Schemes

A) The Software Echo
B) SoftNet
C) SPAN
D) MatchMaker
E) Telecommunications
F) High Performance Computing

Ladies and Gentlemen, thank you for your polite attention. It's been my singular pleasure to address you.
