

BiGGAR Economics

Evaluation of NEXXUS – The West of Scotland Bioscience Network

A final report to
Scottish Enterprise Glasgow

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EXECUTIVE SUMMARY

Scottish Enterprise Glasgow commissioned BiGGAR Economics in February 2008 to evaluate NEXXUS – the West of Scotland BioScience network.

Objectives and Strategic Fit

NEXXUS was formed in 2003 and has two core objectives which have remained consistent since its inception:

- to facilitate communication, knowledge sharing and collaboration between organisations involved in life sciences and related activities in the West of Scotland; and
- to raise the profile locally and nationally of the West of Scotland as a life science centre and contribute, if appropriate, to any Scottish Enterprise activity on an international basis.

NEXXUS fits well with the strategic objectives of funders and with national economic development policy – most recently expressed in the Government Economic Strategy which confirms the life sciences as one of Scotland's key sectors in delivering the overriding government objective of sustainable economic growth, and in the Life Science Strategy 2008 which stresses encouraging collaboration and connections across organisations as one of five areas of focus.

Partners, Management, Income & Expenditure

NEXXUS attracts participants from business, academia, the NHS and the public sector. The Steering Group is composed of people drawn from these groups and is working well – it is good at generating ideas for events and keeping the network evolving. The NEXXUS Team of three is running the network efficiently and effectively.

From its formation to June 2008, NEXXUS will have received £793,500 from a range of sources:

- ERDF - £352,000 (44%);
- Scottish Enterprise - £249,500 (31%);
- four West of Scotland universities - £112,000 (14%);
- councils - £65,000 (8%);
- NHS Greater Glasgow - £10,000 (1%); and
- business sponsorship of events - £5,000 (<1%).

This has been spent in three principal areas: salary and employment costs (61%); marketing materials (10%); and events (10%).

Activities

NEXXUS designs its principal events and information dissemination activities to facilitate the making of *connections* between network participants:

- 'Horizons' events - evening presentations on topics of scientific interest with plenty of networking opportunity;
- lunchtime workshops - presentations on business/ commercialisation/ skills topics with plenty of networking opportunity;
- BioScience Business Club - events aimed at young scientists focusing on skills areas and careers;
- other networking events including the annual NEXXUS awards, debates and BBQs;
- NEXXUSNews – a quarterly newsletter widely distributed in hard copy and electronically to the NEXXUS database of several thousand, containing a range of news articles and profiles of people and developments in the sector;
- NEXXUS e-bulletins – a monthly e-update sent to the NEXXUS database rounding up news, developments and events in the sector; and
- NEXXUS website – www.nexxusscotland.com – which contains profiles and case studies of life science organisations in the West of Scotland, sector news and events; information on living and working in the West of Scotland; information resources on setting up a life science business; and links.

Event	Focus	Number Held	Frequency	Average / Total Attendance
Horizons	networking; scientific topic	12	3 per year	70 / 841
Lunchtime Workshops	networking; business/ commercialisation topic	14	4 - 5 per year	22 / 303
Bioscience Business Club	young scientists; careers and skills; networking	11	2 - 4 per year	57 / 630
Christmas Debate	networking; scientific topic	3	1 per year	65 / 195
Nexus Awards	networking; recognising achievement	3	1 per year	119 / 357
BBQ	networking	4	1 per year	88 / 351
Other Events	networking	15	3 - 4 per year	49 / 739
Total		59	Approx 15 per year	58 / 3,416

Source: NEXXUS

Output	Summary
Networking Events	59 networking events attracting 3,416 attendees/ 2,020 different people
NEXXUSNews	17 issues with a current hard copy circulation of c 3,000
e-bulletins	over 30 issues with a current circulation of c 3,000
www.nexxusscotland.com	average 70,000 hits per month currently

Source: NEXXUS

NEXXUS has over 2,000 active members drawn from universities, the NHS, businesses and the public sector in the West of Scotland and a much wider database of people receiving NEXXUSNews and e-bulletins. The NEXXUS team also actively raises the profile of life sciences in the West of Scotland through attending industry events, making presentations and supplying articles and information to the media.

Benefits

We spoke to 55 people drawn from four groups – academics/ NHS, businesses, public sector and young scientists – over the phone or face to face, taking them through a series of questions focused on the benefits they derived from NEXXUS participation. Respondents are overwhelmingly positive about NEXXUS, which means NEXXUS compares favourably with other networks which we have evaluated.

Connections

NEXXUS networking events are widely praised for enabling people to make connections and:

- having good attendances – the more attendees, the more networking potential and therefore the more effort people will make to go to the events;
- attracting a diverse range of people from different types of organisation and scientific disciplines. NEXXUS enables people to connect with others with whom they would not normally come into contact. Many were surprised at how useful this was, and had not previously appreciated the potential benefits of these types of connection;
- having interesting and inclusive topics – interesting presentations made by high calibre people on a broad range of topics. Interviewees praised these for not being too specialist, always offering something of interest, and drawing a wide range of people; and
- being well organised and informal – the NEXXUS team organises and markets the events well, and has created a ‘community’ atmosphere conducive to networking.

Interviewees have also made connections by following up articles and contact details appearing in NEXXUSNews, e-bulletins and the website, and through contact directly with the NEXXUS Team.

Information

Participants find the NEXXUSNews, e-bulletins and website useful in keeping up to date with sectoral developments, events and who's doing what, and in finding people with whom to 'connect'.

Profile Raising

Participants find NEXXUS to be an effective and cheap way of raising their profile – for example through profiles/ case studies on the website, articles provided for NEXXUSNews, and presenting at/ hosting networking events. This reduces marketing costs and can lead to new business.

Additionality

Almost all consultees believe that they would not have realised all these benefits in the absence of NEXXUS – they could not have generated them in any other way. Almost half considered that they would not have received any of the benefits in the absence of NEXXUS, while most of the rest considered there were benefits that they had realised from NEXXUS that they could not have: realised at all; realised to the same extent; or realised so quickly, through other routes.

GVA Assessment

The nature of networks and the way people use them makes it difficult for participants to attribute 'financial' benefits to network participation – for example through new sales, research grants or collaborative projects, cost reductions or product/ process improvements that they would not have realised anyway. Networking is one of many ways in which organisations conduct marketing, and returns tend to come in the long term, once trust and understanding have been built over a few meetings and an activity of mutual benefit has been identified.

Given this, and with respect to our experience of evaluating other networks, the extent of 'financial' benefits derived by NEXXUS participants is high:

- ten interviewees identified and provided an estimate of financial benefit directly attributable to NEXXUS participation;
- nine interviewees stated that they had benefited financially directly as a result of NEXXUS participation, but could not quantify it; and
- almost all of the rest of business/ university consultees anticipated that they would benefit financially in the future as a result of connections made through NEXXUS.

We estimate that the impact directly attributable to NEXXUS to date could be:

- up to £2.3 million net additional GVA in the West of Scotland and up to £2.9 million across Scotland; and
- up to 51 net additional fte jobs supported in the West of Scotland and up to 64 across Scotland.

Value for Money

The universities and NHS Greater Glasgow believe that they are receiving value for money from their investment in NEXXUS. Our impact estimates suggest very good value for money to the public purse. Across the Scottish economy:

- one net additional fte job could be created by each £12,395 of NEXXUS funding; and
- £1 of NEXXUS funding could be creating £3.65 of net additional GVA.

The Future

NEXXUS is successfully meeting its objectives. It is playing a valuable strategic and operational role in joining up the life sciences sector in the West of Scotland. Participants want NEXXUS to continue in much the same form as currently. They consider the activity mix and frequency to be right and stress the importance of keeping networking events regular.

Over the next few years while maintaining the facilitation of connection making in the West of Scotland life sciences sector as its principal focus, NEXXUS could consider growing its profile raising activities and developing closer links with established and emerging life sciences networks in the rest of Scotland.

The biggest future issue for NEXXUS is its funding. ERDF has funded 44% of NEXXUS costs to date, so whether or not NEXXUS is successful in securing another phase of ERDF funding through its current application, its funders will need to consider its future funding, and possibly increasing their contributions to fill the gap that will be left when ERDF finishes.

Market failure provides the rationale for Scottish Enterprise intervention. The market failure justification for SE support of new networks is deficiency of information on potential network benefits. People may be unwilling to pay to participate in a new network due to the uncertain value of participation. This reduces the number of participants and therefore the value of the network to those who do participate.

The evaluation provides convincing evidence that NEXXUS has successfully closed this market failure to a significant extent:

- almost all interviewees suggested that they would be willing to pay for NEXXUS now that they can identify benefits which it is delivering to them;
- a new set of funding organisations came on board in the second phase of NEXXUS, suggesting they recognised the benefits of NEXXUS; and
- the profile of NEXXUS is such that almost everyone in the life sciences sector in the West of Scotland must now be aware of it.

Given this, the Steering Group should look to increase the funding contribution of the private sector – possibly through a subscription fee or more sponsorship of events. So long as market failure provides the overriding rationale for SE intervention – rather than for example ‘market opportunity’ – SE will need to consider the extent to which it can fund NEXXUS in the future.

1 INTRODUCTION

This is an evaluation of NEXXUS – the West of Scotland BioScience network conducted by BiGGAR Economics for Scottish Enterprise Glasgow. This is the first evaluation of the network which was formed in 2003, and was commissioned as part of the application process for further ERDF funding to inform SE Glasgow of the value of NEXXUS participation to its users.

1.1 NEXXUS

The NEXXUS network has two core objectives:

- to facilitate communication, knowledge sharing and collaboration between organisations involved in life sciences and related activities in the West of Scotland; and
- to raise the profile locally and nationally of the West of Scotland as a life science centre and contribute, if appropriate, to any SE activity on an international basis.

It is funded by ERDF money and a range of public sector, university and NHS funders from which its Steering Group is drawn. Its Team delivers a range of activities including organising networking events, disseminating information and profile raising actions. NEXXUS has approximately 2,020 active members drawn from universities, the NHS, businesses and the public sector in the West of Scotland and a much wider database of people receiving NEXXUSNews and e-bulletins.

1.2 Evaluation Objectives

An independent assessment of the activities, perceptions, outputs and economic impact of NEXXUS is required, including:

- assessment of activities and outputs;
- assessment of how NEXXUS is regarded within the west of Scotland life sciences community;
- assessment of economic impact;
- assessment of the original context/ environment/ strategic rationale (including market failure rationale for public sector intervention) for the project, and of how this has changed, and what are the implications of any change; and
- recommendations for future delivery.

1.3 Method

The evaluation is based on the findings of 55 telephone or face to face interviews conducted with NEXXUS participants and 5 interviews with people external to the network. The participant interviews included most of the members of the Steering Group and were targeted to ensure representation across the four user groups of university/ NHS, businesses, young scientist and public sector/ support providers.

The evaluation was also informed by a review of NEXXUS and strategy documents.

1.4 Structure

The rest of this document is structured as follows:

- section 2 presents the strategic context within which NEXXUS operates;
- section 3 describes the rationale, objectives and delivery of NEXXUS;
- section 4 details NEXXUS inputs, outputs and activities;
- section 5 provides a narrative on the benefits of NEXXUS to its members;
- section 6 discusses the level of net GVA which could be attributable to NEXXUS, and value for money;
- section 7 presents study conclusions;
- appendix A provides a full listing of NEXXUS events and attendances at them; and
- appendix B contains the impact model developed for the study.

2 CONTEXT

This section reviews the life sciences sector in the West of Scotland, the relevant strategies and policies that NEXXUS can contribute to, and the rationale for public sector intervention to establish and support NEXXUS.

2.1 West of Scotland Life Sciences Sector

The importance of the Scottish life sciences sector is summarised as follows¹:

- 'Scotland's thriving life sciences sector consists of 600 organisations – of which around 10% are academic - and over 30,500 employees across all of the main life sciences segments. This adds over £2.8 billion to the Scottish economy annually, with a projected GVA growth rate of 7-8%, which is quadruple the average rate for Scotland'.

The West of Scotland life sciences sector is important both to the West of Scotland economy and to the Scottish life sciences cluster. It is one of the largest biomedical research communities in Europe, with over 2,900 researchers² working in four universities and a number of research institutes. There are 166 bioscience companies employing almost 5,300 people in areas including diagnostics, therapeutics, medical devices, contract research and manufacturing, and sector services.

This suggests that the West of Scotland life sciences sector accounts for approximately 28% of workers and 30% of organisations in the Scottish life sciences sector (Table 2.1).

Table 2.1 – Life Sciences Sector in the West of Scotland

Sector	Companies	Supply	Medical Devices	Academic	Total
Organisations	29	88	49	10	176
% of Scottish total	25%	31%	37%	18%	30%
Jobs	2,149	1,561	1,584	2,926	8,220
% of Scottish total	29%	33%	18%	34%	28%

Sources: www.nexxusscotland.com/life_science/key_capabilities/industrial - organisation/ job numbers, & BiGGAR Economics analysis - %s, based on Scottish Life Sciences Annual Review, 2006-07 – Life Sciences Scotland

2.2 Government Economic Strategy

NEXXUS was developed to contribute to the strategies of the previous government, the Scottish Executive, in particular *A Smart Successful Scotland (SSS)*³ which provided strategic direction for the SE network. Biotechnology was a high growth sector of particular focus for SE. SE focused its intervention on

1 Life Sciences Strategy 2008 – Scottish Government

2 www.nexxusscotland.com/life_science/key_capabilities/industrial - Note: these are not up to date estimates

3 A Smart, Successful Scotland – Strategic Direction to the Enterprise Networks and an Enterprise Strategy for Scotland – Scottish Executive, Nov 2004

contributing to the three SSS themes: growing businesses; learning and skills; and global connections.

NEXXUS was supported as a network initiative that could contribute to all three of these by bringing business and academia together in an environment that could lead to economic benefits from knowledge transfer, collaborations and new business.

The new Scottish Government in its Government Economic Strategy⁴ has identified increasing Scotland's economic growth rate as its number one priority in delivering its Purpose:

- 'to focus the Government and public services on creating a more successful country, with opportunities for all of Scotland to flourish, through increasing sustainable economic growth'.

Life sciences is confirmed as one of six key sectors with high growth potential and the capacity to boost productivity on which the government and its agencies are focusing.

The Spending Review 2007⁵ includes a National Performance Framework which sets the national outcomes the Scottish Government aims to achieve and a number of national indicators and targets. Relevant outcomes include:

- 'at least halve the gap in total research and development spending compared with EU average by 2011';
- 'improve knowledge transfer from research activity in universities'; and
- 'increase the percentage of Scottish domiciled graduates from Scottish Higher Education Institutions in positive destinations'.

The Review underlined the role for SE to 'generate new investment and innovation in Scottish businesses'. To achieve this, SE's focus is to 'concentrate on supporting innovation and investment in regionally and nationally significant and high potential companies and key sectors (including through providing risk capital)'.

To support the growth of the life sciences sector, SE will play a lead role in implementing actions that contribute to the new Life Sciences Strategy.

2.3 Life Science Strategy 2008

This is guiding the development of the Scottish life sciences sector as a top ranking community in the face of increased competition in growing global markets. The strategy recognises the benefits of collaboration between industry, academia, the NHS and other sectors in the Scottish economy as a lever for increased growth and realising the full potential of domestic and global opportunities. The strategy's five areas of focus are:

- people – developing new talent to provide the mix and level of skills needed to meet labour demand while attracting, retaining and developing the existing skills base;

⁴ The Government Economic Strategy – Scottish Government, 2007

⁵ Scottish Budget Spending Review 2007 - Scottish Government, 2007

- technology – encouraging development of the knowledge base and knowledge transfer of technology between academia and business;
- capital – assisting easy access to funding to encourage and support growth;
- infrastructure – providing facilities and assets to meet the needs of the sector; and
- collaboration – encouraging connections across organisations.

Glasgow BioLife is a developing arrangement bringing organisations in the West of Scotland life sciences sector together to facilitate collaboration and growth across the region. Its principal stakeholders are NHS Greater Glasgow and Clyde, the Universities of Glasgow, Strathclyde and West of Scotland, Glasgow Caledonian University and SE. Partners are considering how to work together to:

- link different research and business structures in life sciences to increase key elements to create a sum of output greater than the parts;
- create more opportunities beyond Glasgow and globally;
- link the process stakeholders end to end from laboratory research to bedside care;
- integrate research and innovation activity between the NHS and the Universities; and
- engage local businesses and industries, creating higher awareness of and opportunities in life sciences.

2.4 Public Sector Funding of Networks

Networks can perform an important role in the growth of members of a sector and a sector as a whole by bringing together players who may not have found each other in the absence of network existence and membership. This could be in a customer-supplier, formal working partnership, or informal information sharing type of relationship, which adds value to both parties. Added value can show itself in a number of ways: for example through increased revenues (better understanding of market/ market opportunities, development of new products), reduced costs (procurement savings, process improvements), and improved productivity (better informed staff/ management).

SE intervenes in economic development to correct market failure – where for whatever reason the market is not delivering efficient outcomes. The market failure rationale for SE to support network development, at least initially, is principally one of information. Members of the sector may be uninformed about the opportunities and value of getting together with others – as a result if left to the market, networks may not form, or even if they did, sector players may be unwilling to pay for membership due to lack of information or understanding of the potential benefits. Once networks are running successfully, with members participating actively and willing to pay for the benefits that they are deriving from membership, then the market failure rationale (and the need for SE funding) will diminish.

This is the reasoning which provided the rationale for the public sector funding of NEXXUS. Before its formation the West of Scotland lacked a broad life sciences

network – people connected within their specialist areas, but not necessarily more widely, and across the NHS, universities and businesses.

2.5 Strategic Fit of NEXXUS

NEXXUS brings all the players in the life sciences sector in the West of Scotland together, facilitating information exchange and the making of connections which can lead to new business, collaborations and knowledge transfer. It also raises the profile of life sciences in the West of Scotland, and the region more generally, as a place to do business, invest, study, work and live.

In playing this role, NEXXUS fits well with the government's overriding strategic of sustainable economic growth, and with its focus on the life sciences as one of Scotland's key sectors in delivering this growth. NEXXUS will contribute to the Life Science Strategy 2008 which stresses encouraging collaboration and connections across organisations as one of five areas of focus.

3 RATIONALE, OBJECTIVES AND DELIVERY

This section sets out the rationale, objectives and delivery mechanism for NEXXUS.

NEXXUS was formed in 2003 and has evolved and grown since then through its activities which cover networking event organisation, information dissemination and profile raising. It has approximately 2,020 active members who have attended events and a much wider database of people to which it circulates NEXXUSNews and e-bulletins.

3.1 Rationale

The rationale for setting up NEXXUS as described in its Business Plan of 2002 focused on the need to increase awareness, cohesiveness and competitiveness within the West of Scotland BioScience sector:

- 'there is an economic need in the West of Scotland to ensure that the strengths of the sector in the west are not diminished by negative comparisons, lack of appropriate networks and a fragmented approach. The West of Scotland Bio Network will address these issues';
- 'it will be a catalyst for innovation and thinking encompassing private and public sectors as well as research institutions across the West of Scotland';
- 'it will be a facilitator that will allow for the rapid transfer of knowledge and initiatives and wider collaborations';
- 'it will bring individuals together from private and public sectors as well as research institutions across the West of Scotland to achieve this';
- 'it will be a vehicle to promote best practice'; and
- 'It will promote the strengths of the West of Scotland in a positive and dynamic way to ensure that the correct profile for the West is registered in the media, in the Scottish Parliament and in the wider business, public and academic communities'.

3.2 Objectives & Outcomes

The NEXXUS Mission is 'to create a dynamic and interactive bioscience community in the West of Scotland utilising communication and networking to enhance individual organisations' opportunities as well as raising the profile of the region as a thriving centre for bioscience activity'.

NEXXUS has two core objectives which have remained consistent since its inception:

- to facilitate communication, knowledge sharing and collaboration between organisations involved in life sciences and related activities in the West of Scotland; and
- to raise the profile locally and nationally of the West of Scotland as a life science centre and contribute, if appropriate, to any SE activity on an international basis.

The outcomes that NEXXUS is trying to achieve are to:

- increase the profile of the West of Scotland as a dynamic place for life science businesses;
- increase joint ventures, contracts and collaboration between life science organisations in the West of Scotland;
- increase inward investment in terms of foreign companies locating to the region, commercial research contracts for universities and NHS Trusts, and trade development and export opportunities for companies;
- improve public perception of life sciences leading to greater numbers of school pupils and university students choosing life science courses; and
- increase the ability to attract key parts of the cluster which are not present or in short supply in the West of Scotland, e.g. individuals with management experience for life science start-ups and venture capital organisations.

3.3 Delivery

A Steering Group decides upon the strategic development of NEXXUS and upon the programme of activities which the NEXXUS team then implements. It meets regularly and is currently composed of:

- 6 industry representatives (including Vice-Chair);
- 4 HE/ FE representatives;
- 1 Council representative;
- 1 NHS representative (Chairperson);
- 1 SE representative; and
- the NEXXUS manager.

The NEXXUS Team includes the NEXXUS Manager, Marketing and Communications Officer and the Marketing Assistant. Their role is to organise and run the day to day operations of NEXXUS, including organising events, producing and distributing NEXXUSNews and e-bulletins, updating the website, raising the profile of the West of Scotland life sciences cluster and the region in general, and fielding enquiries.

4 INPUTS, ACTIVITIES & OUTPUTS

This section reviews the funding, activities and outputs of NEXXUS.

4.1 Inputs

Funding for NEXXUS has been staged over 2 phases (Table 4.1). Phase I funding covered the period from November 2002 until November 2005 and totalled £356,000. There were four funders:

- Glasgow City Council – £30,000;
- Scottish Enterprise – £128,000;
- ERDF – £168,000; and
- University of Glasgow – £30,000.

Phase 2 covers the period November 2005 to June 2008 and saw funding expanded to £437,500 with new funding partners including:

- University of Strathclyde (£25,000);
- Glasgow Caledonian University (£10,000);
- University of West of Scotland (£7,500);
- NHS Greater Glasgow (£10,000);
- West Dunbartonshire Council (£5,000); and
- business sponsorship (£5,000).

The principal funders in Phase II continued to be:

- Glasgow City Council – £30,000;
- Scottish Enterprise – £121,500;
- ERDF – £184,000; and
- University of Glasgow – £40,000.

The University of Glasgow contribution includes an in kind element through the hosting of the NEXXUS office.

To June 2008, NEXXUS will have received an income of the order of £793,500 of funding from:

- ERDF (44%);
- Scottish Enterprise (31%);
- university, Council & NHS funders (24%); and
- business sponsorship of NEXXUS events (<1%).

Table 4.1 – NEXXUS Income to June 2008 (£ Thousands)

Funding Group	Phase I				Phase II		Total	% of Total
	2003	2004	2005	2006	2007	2008*		
Glasgow City Council	10.0	10.0	10.0	11.6	6.8	11.6	60.0	7.6%
Scottish Enterprise	43.0	40.0	45.0	48.4	48.4	24.7	249.5	31.4%
University of Glasgow	10.0	10.0	10.0	13.6 ⁺	8.0 ⁺	18.4 ⁺	70.0	8.8%
ERDF	56.0	56.0	56.0	71.4	41.6	71.0	352.0	44.4%
University of Strathclyde	-	-	-	9.7	5.7	9.6	25.0	3.2%
Glasgow Caledonian Uni	-	-	-	3.9	2.2	3.9	10.0	1.3%
University of West of Scotland	-	-	-	2.7	1.6	2.7	7.0	0.9%
NHS Greater Glasgow	-	-	-	3.9	2.3	3.8	10.0	1.3%
W. Dunbartonshire Council	-	-	-	2.7	1.6	0.7	5.0	0.6%
Sponsored Funding	-	-	-	2.6	1.4	1.0	5.0	0.6%
Total	119.0	116.0	121.0	170.5	119.6	147.4	793.5	

Source: NEXXUS. *based on the remaining allocation of funds not yet contributed. ⁺Includes 'funding in kind'

An application for a further phase of ERDF funding for NEXXUS has been made, the result of which will be known shortly. Since ERDF funding constitutes such a large proportion of NEXXUS funding, the funding partners will need to take decisions on how to fund it in the future, whether or not the current ERDF application is successful.

4.2 Expenditure

NEXXUS spends the income that it receives from its funders. Table 4.2 below shows the principal areas of spend to June 2007. These are expenditure projections – actual total spend will be of the order of £793,500 – it will not exceed total income as detailed above. Principal areas of spend are:

- salary and employment costs - 61%;
- marketing materials - 10%; and
- events - 10%.

Table 4.2 – NEXXUS Expenditure to June 2008 (£)

Cost	Phase I			Phase II			Total
	2003	2004	2005	2006	2007	2008*	
Salaries & Other Emp Costs	68.5	79.5	83.5	96.1	105.6	65.4	498.7
Staff Development	0.7	0.9	1.0	-	-	-	2.6
Rent & rates & prop expenses	-	-	-	10.0	10.0	5.0	25.0
Mileage Expenses	2.0	2.0	2.1	2.0	2.0	1.0	11.1
Marketing Material	12.0	6.4	6.7	22.0	22.0	11.0	80.1
Travel & conference	7.0	7.0	7.4	7.0	7.0	3.0	38.4
Stationery & postage	0.6	0.8	0.9	0.8	0.8	0.3	4.2
Telephone	0.6	1.2	1.3	1.0	1.0	0.5	5.6
Computer maintain & support	-	-	-	5.0	-	-	5.0
Bank interest & charges	0.4	-	-	-	-	-	0.4
Computers	4.0	-	-	-	-	-	4.0
Events	10.0	10.0	10.5	20.0	20.0	10.0	80.5
Depreciation	-	1.2	1.3	-	-	-	2.5
General Expenses	14.4	-	-	-	-	-	14.4
Website	10.0	1.0	1.1	10.0	5.0	2.5	29.6
Administration	-	-	-	5.0	5.0	5.0	15.0
Total	130.3	110.1	115.6	178.9	178.4	103.7	817.0⁺

Source: NEXXUS; *based on the remaining allocation of funds not yet contributed; ⁺expenditure projection – actual total spend will not be greater than £793,500.

4.3 Activities & Outputs

The Steering Group decides upon the NEXXUS programme of activities which the NEXXUS team then implements. Activities are devised to contribute to the core objectives and achieve the outcomes listed in the previous chapter.

4.3.1 Networking Events

From the beginning, NEXXUS has been very active in devising and delivering events that offer opportunities for members of its community to network and make connections, and to learn something new about a scientific or business topic:

- 'Horizons' events are evening presentations on topics of scientific interest with food and drink and plenty of time for networking;
- lunchtime workshops involve presentations on business/ commercialisation topics with food and drink and networking opportunity;

- BioScience Business Club events are aimed at young scientists and focus on skills areas and careers; and
- other networking events include the annual NEXXUS awards ceremony, debates and BBQs; and
- co-hosted (with other organisations) events focused on scientific or business topics.

Events are free to attend, and NEXXUS has attracted sponsorship from businesses for some of them. The NEXXUS team has organised approximately 15 events per year and has attracted 2,020 different people in a combined attendance of over 3,400 (Table 4.3). Attendances at NEXXUS events have been excellent, including an average of 70 attendees at the Horizons events and 22 at the lunchtime workshops. A full event listing is provided in Appendix A.

Table 4.3 – NEXXUS Events – Frequency and Attendance

Event	Focus	Number Held	Frequency	Average / Total Attendance
Horizons	networking; scientific topic	12	3 per year	70 / 841
Lunchtime Workshops	networking; business/ commercialisation topic	14	4 - 5 per year	22 / 303
Bioscience Business Club	young scientists; careers and skills	11	2 - 4 per year	57 / 630
Christmas Debate	networking; scientific topic	3	1 per year	65 / 195
Nexxus Awards	networking; recognising achievement	3	1 per year	119 / 357
BBQ	networking	4	1 per year	88 / 351
Other Events	networking	15	3 - 4 per year	49 / 739
Total		59	Approx 15 per year	58 / 3,416

Source: NEXXUS

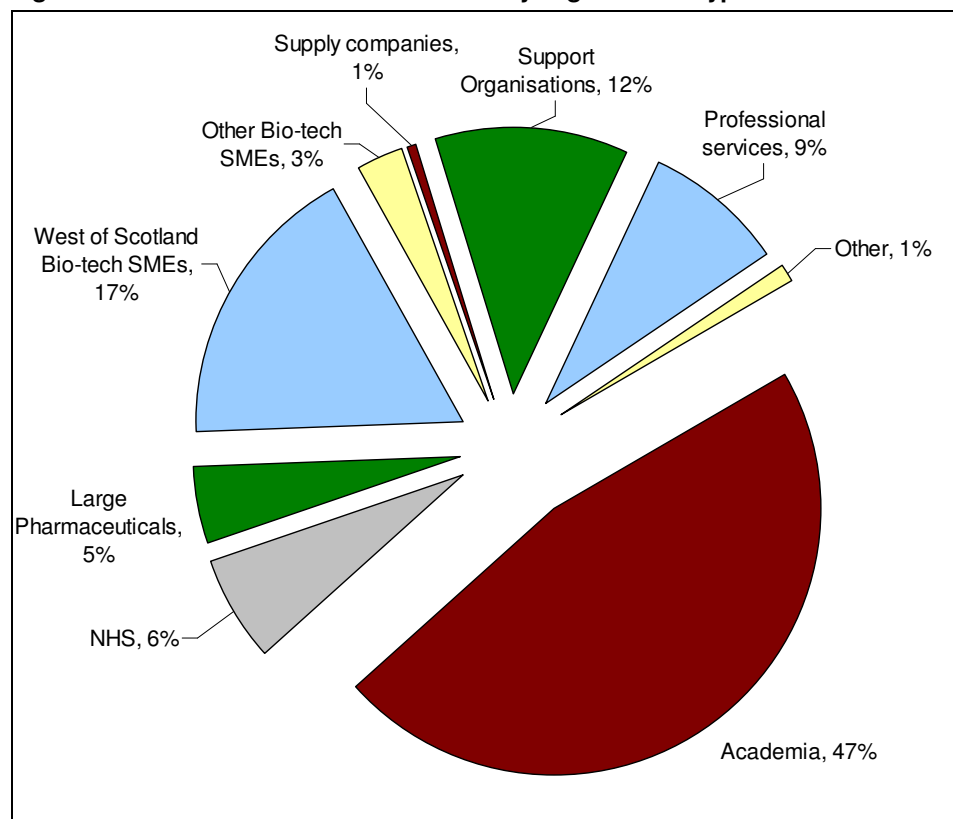
NEXXUS has been successful in attracting a broad range of attendees to its events (Figure 4.1):

- academia – 47%;
- businesses – 35%;
- NHS – 6%; and
- public sector – 12%.

NEXXUS events attract a number of attendees who live or work outside the West of Scotland. Their willingness to travel suggests satisfaction with the events.

NEXXUS has been able to attract sponsorship for a number of its recent events highlighting the attractiveness of these opportunities for sponsors.

Figure 4.1 – Attendance of NEXXUS Events by Organisation Type



Source: NEXXUS

NEXXUS has also worked with other organisations through running joint events and reciprocal publicity. An example of such a collaboration is the Convergent Technologies Showcase & Conference which is a day long event held in the West of Scotland for medical professionals, academics and innovative businesses. Partners behind this event include Scottish Health Innovations Limited, Medical Devices in Scotland, and the Scottish Collaboration and Innovation Programme.

4.3.2 Information Dissemination

NEXXUS actively and regularly communicates with its members through its website, newsletter and e-bulletins.

NEXXUSNews is produced quarterly and distributed free to those in the West of Scotland with an interest in, or participating in, the life sciences community. It contains articles either submitted to or invited by NEXXUS covering topics ranging from recent events to profiles of leading or upcoming scientists and companies in the West of Scotland. There have been 17 editions so far with a circulation of approximately 3,000.

NEXXUS distributes a regular e-bulletin which rounds up life science issues, events, and activities. This reflects information available in the NEXXUSNews and the website and is available under free subscription from the NEXXUS website. There have been over 30 e-bulletins issued to date with a circulation of approximately 2,000.

The newsletters can be read from the website, www.nexxusscotland.com. This is currently averaging 70,000 hits per month and contains:

- a database of life science organisations in the West of Scotland with a profile and contact details;
- information on the West of Scotland life sciences network, and on living and working there;
- information resources on setting up a life science business;
- case studies – promoting the work of individual scientists and businesses working in life sciences in the West of Scotland. Presently there are 31 case studies available on-line, with hard copies also available and used as NEXXUS promotional materials. Further case studies will be completed;
- links to other relevant life sciences organisations and websites;
- information on NEXXUS including Steering Group, team, funders and objectives;
- career opportunities – NEXXUS added a 'Latest Vacancies' section to its website last year; and
- "my job" feature – which provides information on careers, profiles individuals/ organisations, highlights the existence and variety of opportunities in the West of Scotland. NEXXUS intends to grow this section, circulating hard copies at events and exhibitions similar to the way it uses its case studies at present.

NEXXUSNews and the website have facilitated connections, initiated by readers as a direct consequence of exposure from articles contained within them.

4.3.3 Profile Raising

Over the past 5 years NEXXUS has featured in various publications including *'The Herald'* and *'The Scotsman'*, the *'BBC'* website and other industry specific publications.

The NEXXUS team has promoted NEXXUS and the west of Scotland at various events, for example:

- Thistle Bioscience Forum – organised by the BioIndustry Association and held at the Edinburgh International Conference Centre, NEXXUS has exhibited since 2005;
- SE Life Sciences Annual Dinner – NEXXUS has represented and taken guests involved in life sciences to this event;
- Scottish Bioregions Group – a presentation was made to the group on the 'Life Sciences Brand' being promoted by NEXXUS and was attended on subsequent meetings;
- Bioscience2004 – NEXXUS exhibited at this conference held at the SECC, Glasgow, promoting the capabilities of local companies including 25 SMEs and research groups in the local universities;
- Launch of European Headquarters of the Korean Health Industries Development Institute;

- Bio2004 - 2008 – NEXXUS attended this event held in the United States to investigate the activities of innovation networks in the USA and facilitate linking with the Globalscot network of UK nationals working within the biopharmaceutical industry in the USA;
- Roads to Innovation Roadshow – NEXXUS participated in the event aimed at SMEs at the Dunbartonshire area and organised by SE Dunbartonshire;
- Nordic Markets – the NEXXUS manager attended and met Bioscience UK-TI contacts in the 5 Nordic markets and informed them of the capabilities of research groups and companies in the West of Scotland; and
- BioEquity Europe – hosted in Edinburgh, the NEXXUS manager met a number of contacts considered to be useful; and
- Rennes Atlantique – the NEXXUS manager was invited to present to a Rennes Life Sciences meeting that resulted in long standing collaborative contacts for NEXXUS and SMEs within Western France and Western Scotland.

Other meetings have been attended by NEXXUS to promote the life science business and research base including:

- introduce local SMEs to foreign and Commonwealth science and technology officers from around the world;
- meetings with ITI Life Sciences with a view to building links between both groups and consider areas where NEXXUS can support them through publishing articles and by providing information on research groups and companies in the West of Scotland; and
- ad-hoc presentations to visiting guests to Glasgow and the west of Scotland including a delegation from the Gold Coast in Australia.

4.3.4 Outputs Summary

The principal NEXXUS outputs over five years are summarised in Table 4.4.

Table 4.4 – NEXXUS Activities – Outputs Summary

Output	Summary
Networking Events	59 networking events attracting 3,416 attendees/ 2,020 different people
NEXXUSNews	17 issues with a current hard copy circulation of c 3,000
e-bulletins	over 30 issues with a current circulation of c 3,000
www.nexxusscotland.com	average 70,000 hits per month currently

Source: NEXXUS

5 NEXXUS BENEFITS

This section reviews the benefits of NEXXUS as communicated in a survey of NEXXUS users.

5.1 Survey of NEXXUS users

We designed a survey questionnaire in consultation with NEXXUS and SE for use with NEXXUS beneficiaries. This focused on benefits realised through NEXXUS in the form of:

- connections – people met through NEXXUS and the potential value of meeting them;
- information – being kept up to date with developments, people and events in the sector; and
- financial – ‘quantifiable’ financial benefits that may have resulted from connections made, for example in the form of new business or reduced costs.

The ‘population’ of NEXXUS users is large – 2,020 different people have attended events and several thousand see NEXXUSNews, e-bulletins and the website. For this evaluation we decided it was most valuable to speak with the more active users. NEXXUS provided us with a database of 139 of these people stratified by type:

- university/ NHS;
- public sector;
- business base; and
- young scientists.

We completed 55 interviews with people drawn from these groups, either face to face or over the telephone (Table 5.1). All interviewees had attended events and read NEXXUS communications.

Table 5.1 – Profile of Survey Consultees

Group	Consultees
Academics/ NHS	16
Public Sector	11
Business Base	17
Young Scientists	11
Total	55

Source: BiGGAR Economics

Most of the NEXXUS Steering Group members were included in these interviews, and we asked them a wider set of questions covering management and operational issues. We also conducted interviews with five people external to NEXXUS for their views.

Drawing the survey from the more active participants – rather than randomly from a database of thousands – introduces survey bias. We therefore cannot scale up the findings from the survey to those of the wider population. Our survey does, however, capture the views of a good number of participants – 55 people – and the extent to which views were repeated across interviews, provides us with confidence that our findings accurately capture those of *the more active participant*. We can assume that people who only receive NEXXUS information but do not attend events are likely to have benefited less.

5.2 NEXXUS Benefits

Respondents are overwhelmingly positive about NEXXUS, which means it compares favourably with other networks which we have evaluated.

5.2.1 Connections

All interviewees reported making connections through event attendance, and in some cases through following up with people profiled in NEXXUS communications or on the website. It was not possible to quantify the number of ‘connections’ made by participants since a connection has a different meaning for everyone – from someone one speaks to briefly at an event to someone who one gets to know well and may eventually work with.

A surprisingly high number of interviewees reported connections that have led on to, or may lead on to, ‘financial’ benefits (discussed in section 6). More generally, interviewees confirmed the importance of networking – it is always worth making connections, and one never knows when a connection made may translate into something more concrete in the future such as a collaborative project or new business.

Interviewees agreed that NEXXUS facilitated both the strengthening and renewal of existing connections and the making of new ones. NEXXUS events in particular were effective in drawing together a wide group of people who would be unlikely to come into contact with each other through other routes. Some interviewees were surprised at the value derived from talking to people that they would not normally have come into contact with (or sought to come into contact with), and most interviewees commented on the friendly atmosphere created at events which was conducive to networking.

All ‘types’ of participants have made beneficial connections through NEXXUS:

- businesses – have found informal discussions at NEXXUS events a good ‘way in’ to universities and the NHS (compared to approaching them in a more formal way when even finding out who to approach can be challenging);
- universities/ the NHS – with their increasingly important commercialisation and contract research activities have found NEXXUS valuable for connecting with and understanding industry better. Learning about the needs of businesses has also fed into course design; and
- young scientists – have benefited from learning about potential careers and employers.

5.2.2 Information/ Knowledge Transfer

All interviewees found value in the NEXXUS communications – NEXXUSNews, the e-bulletins and the website keep them up to date with who's doing what and latest developments in the sector and are useful for publicising NEXXUS and other upcoming events. They believed the information provided was accessible and at the right level – i.e. not too technical or specialist. This was also a feature of the events that was praised – they are about topics of general rather than specialist scientific interest, and as a result appeal to a wider audience.

As well as information of a general value absorbed through NEXXUS, more than half of interviewees mentioned specific information/ knowledge gained through connections made through NEXXUS relating to:

- scientific and technological developments;
- markets and opportunities;
- funding and investment opportunities;
- commercialisation and business skills; and
- career opportunities.

5.2.3 Profile Raising

Universities and businesses have found NEXXUS to be a very effective and cheap way of raising their profile, leading in several cases to new business (see section 6), and also to reduced marketing costs. Ways in which participants have raised their profile through NEXXUS include:

- hosting NEXXUS events – showcasing themselves by bringing people to their premises; and
- case studies, company profiles and articles written for NEXXUS publications – which people have read and followed up.

Interviewees also believe that the showcasing and profile raising of the whole West of Scotland life sciences sector and of the region as a place to live, study or work is valuable as it communicates scale and dynamism – for example, someone coming to one of the universities to work or study can see that they will be plugging into a sector full of opportunities.

5.2.4 Recruitment

Businesses have derived a recruitment benefit through NEXXUS. Profiles and articles on them have led to people contacting them about job opportunities, but even more useful has been the opportunity to meet young scientists informally at events. These are good ways to gauge out the personalities and skills of people who could potentially fill upcoming job vacancies.

Young scientists have benefited from becoming aware of potential employers, and more generally, about opportunities and careers in business outside academia. Several interviewees mentioned using the company profiles to research potential employers.

5.2.5 Community

Almost all interviewees commented on the success of NEXXUS in creating a 'community' for the West of Scotland life sciences sector where before there was not one. NEXXUS has not just attracted people from all the different organisations in the sector, but in creating welcoming environments at its events, has ensured that they want to keep attending.

Interviewees stressed repeatedly the importance of 'community' and 'atmosphere' in boosting and maintaining participation and creating the conditions for successful connection making. Without this, networks are far less effective. Interviewees also suggested that the community had strengthened with time – while at first people may have stuck more to their own groups, now people seemed to be networking very freely. Interviewees also considered NEXXUS to be a welcoming environment for people attending an event for the first time, and a good introduction for young scientists to networking.

5.3 NEXXUS Activities

Interviewees believe that NEXXUS has developed and organised a good range of events and information services that are successfully delivering the benefits detailed above.

NEXXUS networking events are widely praised for enabling people to make connections and:

- having good attendances – the more attendees, the more networking potential and therefore the more effort people will make to go to the events;
- attracting a diverse range of people from different types of organisation and scientific disciplines. NEXXUS enables people to connect with others with whom they would not normally come into contact. Many were surprised at how useful this was, and had not previously appreciated the potential benefits of these types of connection;
- having interesting and inclusive topics – interesting presentations made by high calibre people on a broad range of topics. Interviewees praised these for not being too specialist, always offering something of interest, and drawing a wide range of people; and
- being well organised and informal – the NEXXUS team organises and markets the events well, and has created a 'community' atmosphere conducive to networking.

Interviewees repeatedly praised the topics covered at events for being interesting and inclusive – networking is the principal reason why most people attend them, however a good topic can make the difference for somebody between attending and not attending. Interviewees also praised the fact that NEXXUS runs a number of events focused on business skills – the content of these sessions was useful and they also serve to reinforce the 'commercialisation message'.

Participants find the NEXXUSNews, e-bulletins and website useful in keeping up to date with sectoral developments, events and who's doing what, and in finding people with whom to 'connect'. Interviewees have also made connections by following up articles and contact details appearing in NEXXUSNews, e-bulletins and the website, and through contact directly with the NEXXUS Team.

5.4 Additionality

Almost all consultees believe that they would not have realised all these benefits in the absence of NEXXUS – they could not have generated them in another way. When probed on the extent of this ‘additionality’, 45% considered that they would not have received any of the benefits in the absence of NEXXUS, while 9% believed that they could have realised all of the benefits anyway in the absence of NEXXUS. The remainder lay between these two positions – there were benefits that they had realised from NEXXUS that they could not have: realised at all; realised to the same extent; or realised so quickly, through other routes.

Much of the discussions around additionality referenced the situation before NEXXUS was established, when: there was little interaction and connectivity between members of the West of Scotland life sciences community; there were fewer opportunities for networking; and organisations and people in them were less receptive to approaches from others.

5.5 Operational Effectiveness

Steering Group interviewees believe that the Group is working well in generating ideas, evolving the network and directing the Team. Meetings are constructive and activities/ outputs focused. Attendance at meetings is generally good, as is member commitment. Other comments included that the Steering Group:

- could be broadened to include wider representation, for example from young scientists and funders not currently represented on it; and
- could have rotating membership to bring fresh ideas forward – several people commented that its composition did not appear to have changed much since formation.

Interviewees were unanimous in praising the NEXXUS Team for the efficient way in which they run the network and excellent performance on:

- information service and communications with/ responsiveness to members;
- knowledge of life sciences issues;
- promotion and organisation of events; and
- attraction of people to events.

5.6 Strengths of NEXXUS and Future Issues

The NEXXUS participants will keep attending events in the future – they value the network and its activities and are very keen that it continues in much the same way as it is currently. Interviewees made several points concerning the values of NEXXUS and its future development:

- frequency, variety and quality of events – interviewees believe that NEXXUS has got this right, and stressed the importance of maintaining this level of activity;
- strategic importance of NEXXUS – in joining up the life sciences sector in the West of Scotland it has become a body which is playing a valuable role in contributing to strategic objectives for the sector; one interviewee argued that

NEXXUS can be a valuable champion and profile raiser for major projects in the sector such as developments at the Southern General Hospital;

- value of partnership – drawing the Steering Group and securing funding from a wide range of partners is a strength of NEXXUS – it is inclusive, and the organisational or funding burden does not fall disproportionately on any single partner;
- geographical reach of NEXXUS – interviewees generally agreed that the West of Scotland geographical definition is a good one which is wide enough to attract in a wide number of people and organisations but not so wide as to require people to travel too far and threaten the ability to foster a community;
- linking with other regional networks – interviewees see the value of occasionally linking up with other networks (eg BioDundee or a potential NEXXUS East) for events, but confirmed the risk that increased travel time would impact upon attendance;
- sectoral focus of NEXXUS – interviewees confirmed the breadth of scientific disciplines which it embraces as a real strength, and would not like to see a narrowing of this focus. The general and inclusive nature of events attracts a broad and interesting group of attendees with whom to network;
- profile raising – interviewees were not sure how well known NEXXUS is beyond the scientific community in the West of Scotland, and recognised that internal connection making had rightly been the main focus of NEXXUS activities to date; and
- the name NEXXUS – a couple of interviewees argued strongly for a change of name, using the word Glasgow in the title on the basis that neither ‘NEXXUS’ or the ‘West of Scotland’ has any resonance internationally, while Glasgow is a ‘brand’ with a growing name in life sciences.

5.7 Willingness to Pay for NEXXUS

The biggest future issue for NEXXUS is its funding, given that ERDF, which has funded 43% of NEXXUS income to date, will not continue indefinitely. Funders who were interviewed – three of the four universities and NHS Greater Glasgow confirmed that they consider that they have been getting value for money from their contributions to NEXXUS, and this evaluation confirms (section 6) that SE has realised value for money from its contributions.

To gauge the value of NEXXUS to the wider community of members, we asked interviewees whether they would be willing to make some form of financial contribution to participate in NEXXUS activities:

- almost everyone who answered the question (94%) suggested that they would be willing to pay, but that it would depend very much on the form of payment required and the amount.

This is an unusually high positive response to this kind of question which clearly confirms the value that members are deriving from NEXXUS – they will only want to pay for something if they are getting value from it. This suggests that it will be possible in the future for NEXXUS to increase its income from business, however, the following cautionary points were made:

- financial contributions must not be set too high as they may discourage participation, which will reduce the value of the network for those who continue participating;
- introducing pay per event is thought to be unwise – it could reduce attendances significantly, and with that, the value of them. A subscription fee is thought to be a more appropriate method;
- transparency – some member institutions would like information on how the funder allocations have been set – on what basis are some funders paying more or less than others?

We asked participants how much they might be willing to pay. Some compared NEXXUS with other subscription networks, leading to a wide range of suggestions from £40 to £200 per year for personal memberships. On a company or department basis, suggestions ranged from £90 to £2,000 per year, centring on a median and modal amount of around £200 per year.

6 GVA ASSESSMENT

This section considers the GVA (gross value added) generated by NEXXUS, based on discussions with interviewees about the ‘financial’ benefits they have derived from NEXXUS participation.

6.1 Financial Benefits through NEXXUS

The nature of networks and the way people use them makes it difficult for participants to attribute ‘financial’ benefits to network participation – for example through new sales, research grants or collaborative projects, cost reductions or product/ process improvements that they would not have realised anyway. Networking is one of many ways in which organisations conduct marketing, and returns tend to come in the long term, once trust and understanding have been built over a few meetings and an activity of mutual benefit has been identified.

Furthermore, networks may typically succeed in generating attention, interest and desire to act, however, they may not generate action unless there are other supports/ incentives which reduce risk (for example, small capital grants, availability/ subsidisation of business advice or expert consultancy, availability of market/ technical information, etc).

Given this, a surprisingly large number of interviewees identified financial benefits attributable to NEXXUS:

- 10 consultees were able to quantify financial benefits attributable to NEXXUS activities;
- a further 9 consultees stated that they had benefited financially but could not quantify that benefit; and
- almost all of the rest of business/ university consultees anticipated that they may benefit financially in the future as a result of connections made through NEXXUS.

By way of illustration of the different ways in which participants have benefited ‘financially’ through NEXXUS, Table 6.1 contains brief ‘case study’ examples.

Table 6.1 – Financial Benefit ‘Case Studies’

We spoke to very senior people in the life sciences in three of the four West of Scotland universities. Each believed that NEXXUS had delivered real financial benefits to their institutions – in terms of new contracts for research or other services provided – through connections made and profile raising afforded through NEXXUS. Two of these consultees could not attempt to quantify this financial impact, however a third identified the amount by which turnover had increased in recent years, and suggested that as much as two thirds of this could be attributed to NEXXUS. This was due to the value of NEXXUS in helping the institution to raise its profile and communicate its services and activities.

A researcher at a university described how a research project had benefited financially directly as a result of presenting the project at a NEXXUS event. After the presentation someone had talked to her from an organisation that subsequently awarded her project a small grant which enabled the employment of three summer research students. The work they did helped progress the project rapidly.

One university reported that as a direct result from a business connection made at a NEXXUS event, a sponsored annual prize was established in a relevant teaching area, which was awarded to one highly achieving graduate.

Another university consultee reported two different benefits which had been achieved as a direct result of NEXXUS established connections: one resulted in a large research project being awarded from a company based in the West of Scotland, and the other resulted in an academic being contracted out to a company to deliver consultancy expertise.

A university also reported that a proportion of research grants achieved could be attributed to connections made through NEXXUS events. It was also indicated that NEXXUS had facilitated projects by speeding up the process of project development.

A businessperson communicated how contacts made at NEXXUS, along with the knowledge that there was a wide network full of business opportunities, encouraged the individual to start up an enterprise. Through an article provided for NEXXUSNews and connections made at NEXXUS events, the consultee had met two or three businesses with which she is now working on an ongoing consultancy basis.

One business had made various beneficial contacts through NEXXUS. Two contacts with start-up companies based in the West of Scotland had created new business and increased sales.

Another business had met a contact from a North of Scotland company at a NEXXUS event. This connection ultimately resulted in a substantial contract being won as a direct result of a NEXXUS created connection.

One business had participated actively in many NEXXUS events. They could not single out one piece of business which was directly related to NEXXUS activity, however attributed a proportion of new business to NEXXUS created connections. It was believed this was an accurate estimate for the amount of increased business created since they had engaged with NEXXUS.

6.2 Impact Methodology and Assumptions

During our discussions on benefits with interviewees, we probed for any financial benefits that they had already realised (for example increased turnover or research/ grant income), and where they could identify these, we confirmed for 'additionality' – i.e. whether they would have realised these benefits anyway without participating in NEXXUS. This gave us a gross additional £ value of benefit to the organisation.

In our discussions we also discussed 'displacement' - the extent to which the £ benefit realised may have been at the expense of other life sciences organisations located in the West of Scotland or Scotland. This informed assumptions we made on displacement in our analysis of net impact. In the model we built for this evaluation we also made assumptions at the West of Scotland and Scotland level on:

- leakage – the extent to which benefits may accrue outside the geographic area (e.g. from employees resident outside the area);
- substitution – the extent to which an organisation may substitute one activity for a similar one to take advantage of public sector assistance (unlikely to be applicable to networks); and

- income and supplier multipliers – which allow for the impact on suppliers to the beneficiaries (supplier/ indirect multiplier) and from the expenditure of their employees supported by the network benefits (income/ induced multiplier).

We applied these assumptions on a case by case basis to the 10 instances of attributable financial impact (Table 6.2).

Table 6.2 – Economic Impact Assumptions applied

Case ID	Leakage		Displacement		Substitution		Multiplier effects	
	WoS	Scot	WoS	Scot	WoS	Scot	WoS	Scot
1	0%	0%	5%	10%	0%	0%	1.6	2.9
2	0%	0%	10%	15%	0%	0%	1.2	1.7
3	0%	0%	5%	10%	0%	0%	1.6	2.9
4	50%	50%	5%	10%	0%	0%	1.6	2.9
5	0%	0%	5%	10%	0%	0%	1.2	1.7
6	0%	0%	25%	100%	0%	0%	1.2	1.7
7	0%	0%	25%	50%	0%	0%	1.6	2.9
8	10%	5%	25%	50%	0%	0%	1.2	1.7
9	0%	0%	25%	50%	0%	0%	1.6	2.9
10	10%	5%	25%	50%	0%	0%	1.2	1.7

Source: BiGGAR Economics Analysis

The multipliers used come from published sources⁶, and we have assumed that the multiplier effects at a West of Scotland level are 30% of those at a national level.

Applying these factors to the gross additional £ benefit values supplied by the interviewees gives us net additional £ benefit. We then applied a GVA to turnover estimate ratio for the life sciences of 42%⁷ to arrive at estimates of net additional GVA attributable to NEXXUS.

Applying GVA per fte employment estimates⁸ to this figure – of £42,478 for research activities and £45,240 for commercial activities – then gave us an estimate of the fte jobs created that might be attributable to NEXXUS.

6.3 Economic Impact Attributable to NEXXUS

Gross additional financial benefit attributable directly to NEXXUS at the 10 organisations was £2.92 million, which suggests net additional financial benefit could be (Table 6.3):

- £2.76 million across the West of Scotland; and
- £3.45 million in Scotland as a whole.

6 Scottish input: output tables 2006 for research, and BIA/ Ernst & Young 2000 for business

7 Scottish Life Sciences Trends - BiGGAR Economics for Scottish Enterprise, 2005

8 Scottish Life Sciences Trends - BiGGAR Economics for Scottish Enterprise, 2005

Table 6.3 – Gross and Net Financial Benefits Attributable to NEXXUS

Case ID	Gross Additional Impact	Net Additional Impact	
		WoS	Scotland
1	20,000	29,830	52,200
2	250	272	361
3	22,000	32,813	57,420
4	400,000	298,300	522,000
5	1,110,000	1,275,945	1,698,300
6	3,000	2,723	-
7	10,000	11,775	14,500
8	10,000	8,168	8,075
9	20,000	23,550	29,000
10	1,320,000	1,078,110	1,065,900
TOTAL	2,915,250	2,761,485	3,447,756

Source: BiGGAR Economics Analysis

This suggests net additional GVA impact attributable to NEXXUS at these 10 organisations could be (Table 6.4):

- £1.16 million across the West of Scotland; and
- £1.45 million in Scotland as a whole.

Table 6.2 – NEXXUS Financial Benefit Net Additional GVA Impact – 10 cases

£	West of Scotland	Scotland
Research	993,391	1,164,507
Business	166,433	283,550
GVA impact	1,159,824	1,448,058

Source: BiGGAR Economics Analysis

This suggests that employment supported by this net additional GVA impact attributable to NEXXUS at these 10 organisations could be (Table 6.5):

- 26 fte jobs in the West of Scotland; and
- 32 fte jobs in Scotland as a whole.

Table 6.5 – NEXXUS Financial Benefit Net Additional Employment Impact – 10 cases

fes	West of Scotland	Scotland
Research	23	27
Business	4	6
Employment impact	26	32

Source: BiGGAR Economics Analysis

To account for the extra financial benefit attributed to NEXXUS by the nine interviewees but for which they could not provide an estimate, we believe that it is reasonable to double the above impact estimates. A principal reason for this is our discussions with three universities and NHS Greater Glasgow, each of which stated that NEXXUS had benefited them financially, but only one of which was able to provide an estimate for this.

We therefore believe that *total* net additional GVA impact attributable to NEXXUS to date could be of the order of (Table 6.6):

- £2.32 million across the West of Scotland; and
- £2.90 million in Scotland as a whole.

And that *total* net additional employment impact attributable to NEXXUS to date could be of the order of (Table 6.6):

- 51 fte jobs in the West of Scotland; and
- 64 fte jobs in Scotland as a whole.

Table 6.6 – Total Net Additional Impact attributable to NEXXUS

	West of Scotland	Scotland
Total GVA impact (£)	2,319,648	2,896,115
Total fte employment impact	51	64

Source: BiGGAR Economics Analysis

6.4 Value for Money

The universities and NHS Greater Glasgow believe that they are receiving value for money from their investment in NEXXUS. The impact estimates suggest that across the Scottish economy:

- one net additional fte job could be created by each £12,395 of NEXXUS funding; and
- £1 of NEXXUS funding could be creating £3.65 of net additional GVA.

And at the level of the West of Scotland economy:

- one net additional fte job could be created by each £15,476 of NEXXUS funding; and
- £1 of NEXXUS funding could be creating £2.92 of net additional GVA.

This suggests very good value for money to the public purse from its support of NEXXUS, particularly when considered relative to other economic development interventions and networks which we have evaluated. The quality of this performance is further enhanced when one considers that the objectives set for NEXXUS are not directly about GVA and employment creation – they are about connection making and profile raising.

7 CONCLUSIONS

7.1 Strategic Fit

NEXXUS fits well with the strategic objectives of funders and with national economic development ones – most recently expressed in the Government Economic Strategy which confirms the life sciences as one of Scotland's key sectors in delivering the overriding government objective of sustainable economic growth, and in the Life Science Strategy 2008 which stresses encouraging collaboration and connections across organisations as one of five areas of focus.

7.2 Delivery

The Steering Group composed of people drawn from business, academia/ NHS and the public sector is working well – it is good at generating ideas for events and keeping the network evolving. The NEXXUS Team is running the network efficiently and effectively.

The NEXXUS team has organised approximately 15 networking events per year and has attracted 2,020 different people in a combined attendance of over 3,400. It has also delivered an up to date and regular information and profiling service through NEXXUSNews, e-bulletins and the NEXXUS website and has raised the profile of life sciences in the West of Scotland through attending industry events, making presentations and supplying articles and information to the media.

Table 7.1 – NEXXUS Activities – Outputs Summary

Output	Summary
Networking Events	59 networking events attracting 3,416 attendees/ 2,020 different people
NEXXUSNews	17 issues with a current hard copy circulation of c 3,000
e-bulletins	over 30 issues with a current circulation of c 3,000
www.nexxusscotland.com	average 70,000 hits per month currently

Source: NEXXUS

7.3 Income and Expenditure

From its formation to June 2008, NEXXUS will have received £793,500 from a range of sources:

- ERDF - £352,000 (44%);
- Scottish Enterprise - £249,500 (31%);
- four West of Scotland universities - £112,000 (14%);
- councils - £65,000 (8%);

- NHS Greater Glasgow - £10,000 (1%); and
- business sponsorship of events - £5,000 (<1%).

This has been spent in three principal areas: salary and employment costs (61%); marketing materials (10%); and events (10%).

7.4 Benefits

We spoke to 55 people drawn from four groups – academics/ NHS, businesses, public sector and young scientists – over the phone or face to face, taking them through a series of questions focused on the benefits they derived from NEXXUS participation. Respondents are overwhelmingly positive about NEXXUS, which means NEXXUS compares favourably with other networks which we have evaluated.

7.4.1 Connections

NEXXUS networking events are widely praised for enabling people to make connections and:

- having good attendances – the more attendees, the more networking potential and therefore the more effort people will make to go to the events;
- attracting a diverse range of people from different types of organisation and scientific disciplines. NEXXUS enables people to connect with others with whom they would not normally come into contact. Many were surprised at how useful this was, and had not previously appreciated the potential benefits of these types of connection;
- having interesting and inclusive topics – interesting presentations made by high calibre people on a broad range of topics. Interviewees praised these for not being too specialist, always offering something of interest, and drawing a wide range of people; and
- being well organised and informal – the NEXXUS team organises and markets the events well, and has created a 'community' atmosphere conducive to networking.

Interviewees have also made connections by following up articles and contact details appearing in NEXXUSNews, e-bulletins and the website, and through contact directly with the NEXXUS Team.

7.4.2 Information

Participants find the NEXXUSNews, e-bulletins and website useful in keeping up to date with sectoral developments, events and who's doing what, and in finding people with whom to 'connect'.

7.4.3 Profile Raising

Participants find NEXXUS to be an effective and cheap way of raising their profile – for example through profiles/ case studies on the website, articles provided for NEXXUSNews, and presenting at/ hosting networking events. This reduces marketing costs and can lead to new business.

7.4.4 Additionality

Almost all consultees believe that they would not have realised all these benefits in the absence of NEXXUS – they could not have generated them in another way. Almost half considered that they would not have received any of the benefits in the absence of NEXXUS, while most of the rest considered there were benefits that they had realised from NEXXUS that they could not have: realised at all; realised to the same extent; or realised so quickly, through other routes.

7.4.5 GVA Assessment

The nature of networks and the way people use them makes it difficult for participants to attribute ‘financial’ benefits to network participation – for example through new sales, research grants or collaborative projects, cost reductions or product/ process improvements that they would not have realised anyway. Networking is one of many ways in which organisations conduct marketing, and returns tend to come in the long term, once trust and understanding have been built over a few meetings and an activity of mutual benefit has been identified.

Given this, and with respect to our experience of evaluating other networks, the extent of ‘financial’ benefits derived by NEXXUS participants is high:

- ten interviewees identified and provided an estimate of financial benefit directly attributable to NEXXUS participation;
- nine interviewees stated that they had benefited financially directly as a result of NEXXUS participation, but could not quantify it; and
- almost all of the rest of business/ university consultees anticipated that they would benefit financially in the future as a result of connections made through NEXXUS.

We estimate that the impact directly attributable to NEXXUS to date could be:

- up to £2.3 million net additional GVA in the West of Scotland and up to £2.9 million across Scotland; and
- up to 51 net additional fte jobs supported in the West of Scotland and up to 64 across Scotland.

7.5 Value for Money

The universities and NHS Greater Glasgow believe that they are receiving value for money from their investment in NEXXUS. Our impact estimates suggest very good value for money to the public purse. Across the Scottish economy:

- one net additional fte job could be created by each £12,395 of NEXXUS funding; and
- £1 of NEXXUS funding could be creating £3.65 of net additional GVA.

7.6 The Future

NEXXUS is successfully meeting its objectives. It is playing a valuable strategic and operational role in joining up the life sciences sector in the West of Scotland. Participants want NEXXUS to continue in much the same form as currently. They

consider the activity mix and frequency to be right and stress the importance of keeping networking events regular.

Over the next few years while maintaining the facilitation of connection making in the West of Scotland life sciences sector as its principal focus, NEXXUS could consider growing its profile raising activities and developing closer links with established and emerging life sciences networks in the rest of Scotland.

The biggest future issue for NEXXUS is its funding. ERDF has funded 44% of NEXXUS costs to date, so whether or not NEXXUS is successful in securing another phase of ERDF funding through its current application, its funders will need to consider its future funding, and possibly increasing their contributions to fill the gap that will be left when ERDF finishes.

Market failure provides the rationale for Scottish Enterprise intervention. The market failure justification for SE support of new networks is deficiency of information on potential network benefits. People may be unwilling to pay to participate in a new network due to the uncertain value of participation. This reduces the number of participants and therefore the value of the network to those who do participate.

The evaluation provides convincing evidence that NEXXUS has successfully closed this market failure to a great extent:

- almost all interviewees suggested that they would be willing to pay for NEXXUS now that they can identify benefits which it is delivering to them;
- a new set of funding organisations came on board in the second phase of NEXXUS, suggesting they recognised the benefits of NEXXUS; and
- the profile of NEXXUS is such that almost everyone in the life sciences sector in the West of Scotland must now be aware of it.

Given this, the Steering Group should look to increase the funding contribution of the private sector – possibly through a subscription fee or more sponsorship of events. So long as market failure provides the overriding rationale for SE intervention – rather than for example ‘market opportunity’ – SE will need to consider the extent to which it can fund NEXXUS in the future.

APPENDIX A – NEXXUS EVENTS

Series	Topic	Date	Attendance
Horizons: The Next Big Thing in...	... Cardiovascular	Mar-04	88
	... Cancer	May-04	126
	... Neuroscience	Oct-04	64
	... Inflammation	Feb-05	64
	... Molecular Diagnostics	Sep-05	100
	... Drug Delivery	Feb-06	68
	... Stem Cells	Jun-06	71
	... Gene Manipulation	Nov-06	38
	... Drug Discovery	Feb-07	87
	... Comparative Medicine	Apr-07	22
	... Stress & Chronic Disease	Oct-07	50
	... Translational Medicine	Feb-08	63
	Lunchtime Seminars	Making the most of the media	Sep-05
Pricing for Life Science Companies		Oct-05	22
Risk Management for Life Science Companies		Nov-05	21
Marketing Your Products to the High Street		Jan-06	19
Making the Most of the Media		May-06	26
Framework Programme 7		May-06	17
IP and Patents		Sep-06	27
Innovation the key to growth		Sep-06	18
Good Procurement Practice		Jan-07	13
Marketing for Life Science Organisations		Mar-07	27
An Intro to Integrated DNA Technologies		May-07	17
Logistics of Transportation of Biological Samples		Oct-07	27
Life Science Commercialisation		Nov-07	17
Resources for SMEs'		Jan-08	25
Bioscience Club	Event	Dec-03	62
	Event	Apr-04	69
	Careers	Feb-05	123
	Careers	Apr-05	128
	Event	Nov-05	91
	Productive Networking	Mar-06	21

	A Lab Based Career	Nov-06	28
	Productive Networking	Mar-07	20
	Business Solutions*	Apr-07	52
	A career away from the Bench	May-07	16
	Productive Networking	Sep-07	20
Other networking events	Launch	Sep-03	68
	Surviving the storm	Oct-03	45
	Funding from Europe	Oct-03	30
	Funding for R&D	Mar-04	63
	Business Coaching workshop	Jun-04	4
	Bioinformatics	Jun-04	51
	Refocus	Nov-04	50
	Close to market technologies	Jan-05	34
	Using human tissue in biomedical research	Mar-05	84
	Funding for Knowledge Transfer	May-05	56
	Speed Networking	Oct-06	21
	BioScience Business Solutions (joint event)	Apr-07	52
	Convergent Technology Showcase	May-07	139
	Stem Cell Focus Group Meeting	Sep-07	15
	Ernst & Young Global Biotechnology Report 2007 - Beyond Borders	Sep-07	27

Event	Year	Attendance
Christmas Debate	2003	93
	2004	54
	2005	48
Nexus Awards	2005	120
	2006	109
	2007	128
BBQ	2004	64
	2005	80
	2006	147
	2007	60

APPENDIX B – IMPACT MODEL